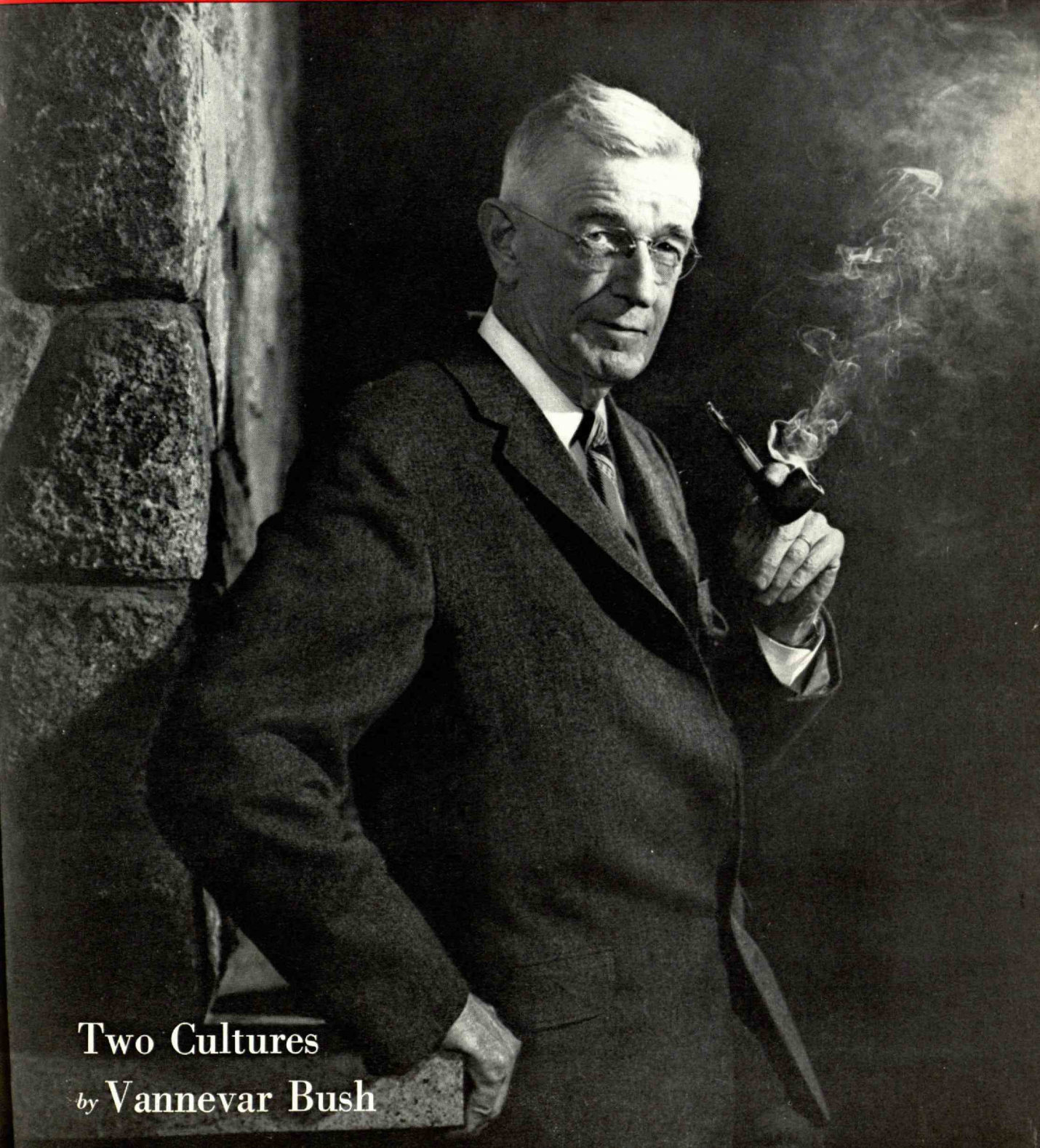


Technology Review

Edited at the Massachusetts Institute of Technology

November, 1962



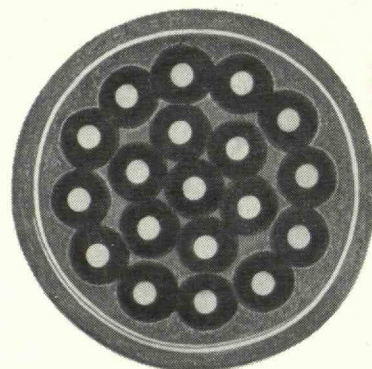
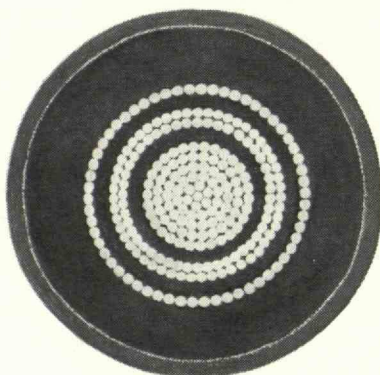
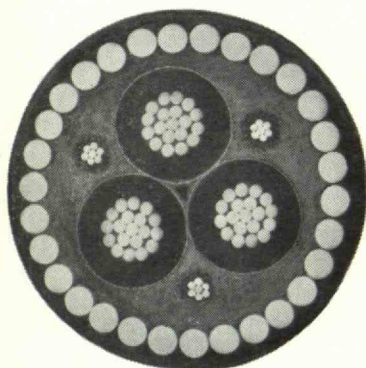
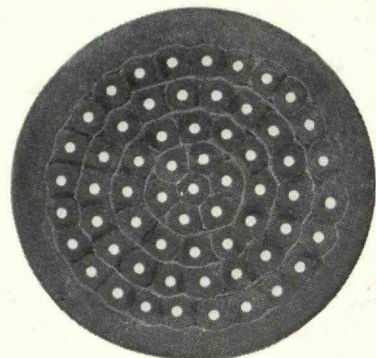
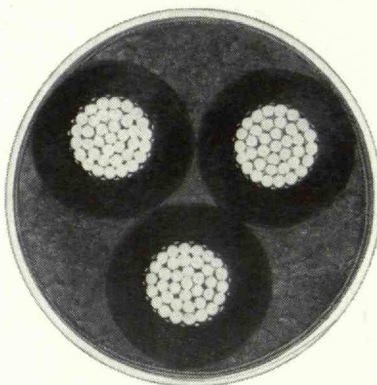
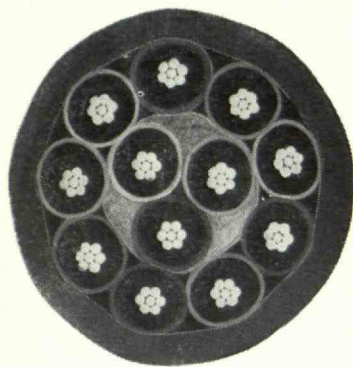
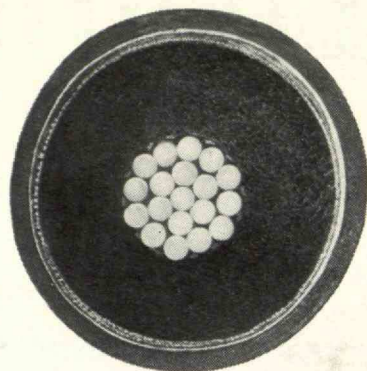
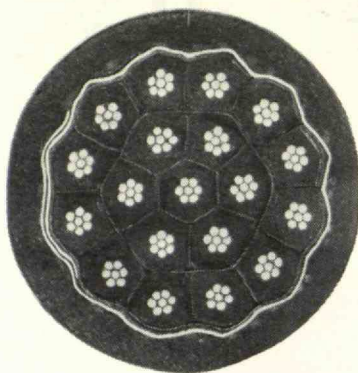
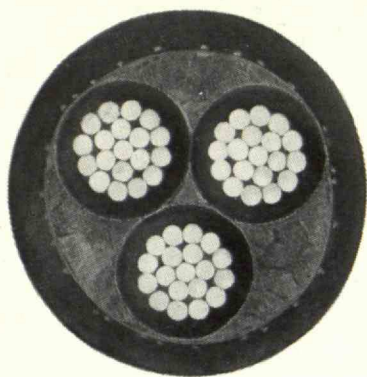
Two Cultures

by Vannevar Bush

technology review

Published by MIT

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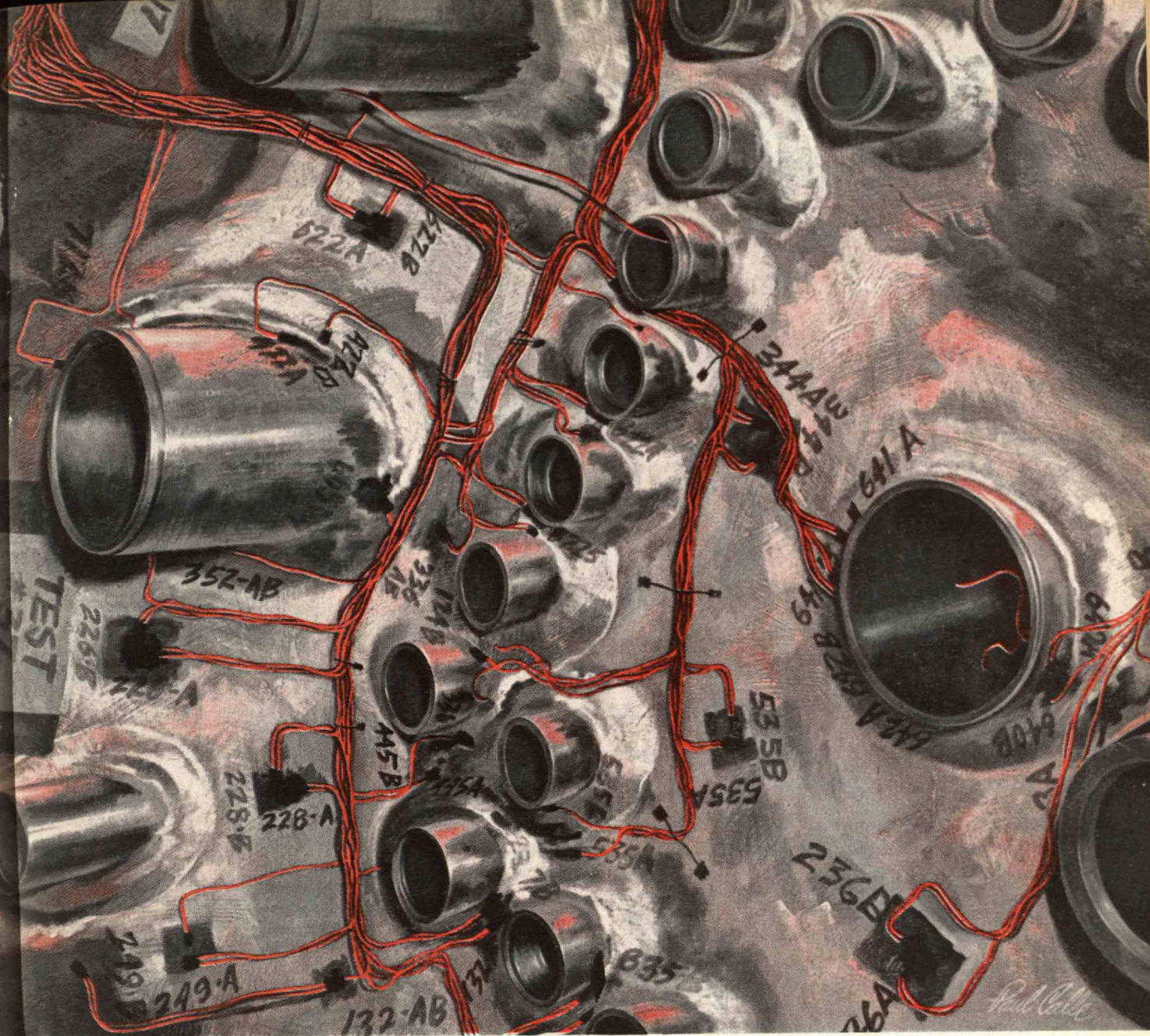
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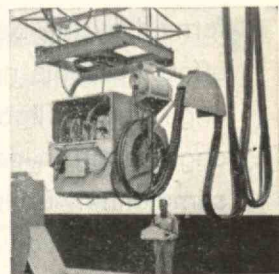
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Officers of the Alumni Association of M.I.T. are: *William L. Taggart, Jr.*, '27, President; *Donald P. Severance*, '38, Executive Vice-president; *Carroll L. Wilson*, '32, and *F. Leroy Foster*, '25, Vice-presidents; and *Frederick G. Lehmann*, '51, Secretary.

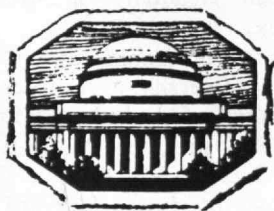
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Feedback



The Dome's Setting

The M.I.T. dome has long appeared on The Review's letterhead as shown below. Welles Bosworth, '89, the architect, recommended in a recent letter to The Review's editors, from his home in France, that it be changed to appear as shown above. Mr. Bosworth's explanation was in part as follows:

"Your letter of the 15th interested me very much—especially at the first glance! I felt that the 'letter-head' looked very poor and *un-decorative*! Before reading the letter, I took my pen and roughly drew a line around the little sketch of my dome and portico; to give it a sort of frame, like a picture, or like the gold setting of the stone of a ring. But that was not enough. It had to be 'supported' and balanced, by those two 'dots' ° °. And I'm sure you will agree with me that it looks much happier, and the expense to do this very slight.

"It's like that small date-tab, on the drum of the dome. I *insisted* on it! It has enormous value there, for without it, the dome would seem to rotate. I also weakened the lines in the sky; they make it *too* dark and gloomy. They can be rubbed down on the plate."



Contents November, 1962

The photograph of Vannevar Bush, '16, on the cover is by Karsh of Ottawa, and now adorns M.I.T.'s Bush Room.

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H. E. Lobdell, '17, culls the records for interesting items.

Individuals Noteworthy

Materials Director

TO BE the first Director of its new Center for Materials Science and Engineering, M.I.T. has named Robert Allan Smith, who headed physics work at the Royal Radar Establishment from 1946 to 1961.

A native of Scotland, Professor Smith was educated at Edinburgh and Cambridge Universities and became a member of the British Ministry of Supply's radar research group in 1939. He has written six books on such subjects as radio, thermodynamics, and infrared and semiconductor physics, and spent the last academic year as professor of physics at the University of Sheffield, England. He has also been appointed professor of physics at M.I.T.

F. L. Friedman: 1918-1962

THE DIRECTOR of the Science Teaching Center at M.I.T., and a leading contributor to the Physical Science Study Committee's program, Professor Francis L. Friedman, '49, died last August 4. Born in New York City, he studied at Harvard and became a group leader in theoretical physics for the Manhattan District before coming to M.I.T. for his doctorate.

Professor Friedman was involved in designing nuclear reactors to produce plutonium, conducted research in cosmic-ray shower theory, and participated in government projects concerned with nuclear-powered flight and undersea warfare. He was a guest of the Institute for Theoretical Physics in Niels Bohr's laboratory in Copenhagen in 1955-1956, and became professor of physics at M.I.T. in 1958 after several years of teaching. He was a leading figure in efforts to improve both high school and college science teaching, and was vice-chairman of the Commission on College Physics of the American Association of Physics Teachers.

He is survived by his father, Harry G. Friedman of New York; his former wife, Mrs. Betty Anthony Friedman, and three children.

New Professors

RECENT appointments to the M.I.T. Faculty have included those of:

Bertram Kostant, from the University of California at Berkeley, as professor of mathematics. Educated at Purdue and the University of Chicago, he was Higgins Lecturer at Princeton in 1955-56, has contributed to mathematical journals, and recently was elected to the American Academy of Arts and Sciences.

Franco Modigliani, from Northwestern University, as a professor in the School of Industrial Management. He is president of the Econometric Society, has been a visiting professor at both Harvard and M.I.T., and formerly taught at the Carnegie Institute of Technology and the University of Illinois.

Captain William M. Nicholson, USN, '48, from the Puget Sound Naval Shipyard, as professor in the Department of Naval Architecture and Marine Engineering. He was graduated with honors from the U.S. Naval Academy in 1941, and will assume the duties of Captain Edward S. Arentzen, '43, who is retiring from the Navy.

F. K. Morris: 1885-1962

AN AUTHORITY on the geology of Asia, Professor Emeritus Frederick K. Morris died last October 5 at his home in Montgomery, Ala. Educated at the College of the City of New York and Columbia University, Dr. Morris taught at Columbia and at Pei Yang University in Tientsin before coming to M.I.T. in 1927. He was a member of the American Museum of Natural History's Central Asiatic Expeditions in the 1920's and continued his association with the museum for many years. After retiring from the M.I.T. Faculty in 1950, he became chief of the Tropic Section of the Arctic-Desert-Tropic Information Center at Maxwell Air Force Base in Alabama.

Professor Morris was a fellow of the American Academy of Arts and Sciences. His wife survives.

Liaison Officers

RICHARD B. FINN, JR., '54, has been appointed acting director of the M.I.T. Industrial Liaison Office, which he joined in 1960 after participating in the preliminary design, development, and pre-operational testing of power reactors for the electric utility industry. He succeeds *Winston R. Hindle, Jr.*, '54, now with Digital Equipment Corporation.

Daniel J. Holland, '58, has succeeded *John F. Maxwell, Jr.*, '52, as one of the Industrial Liaison Officers. Mr. Holland was formerly a development engineer with Thompson Ramo Wooldridge, Inc., and recently was graduated from the Harvard Graduate School of Business Administration.

Lloyd S. Beckett, Jr., '56, has become an Industrial Liaison Officer for the Institute. He was formerly with the Acushnet Process Company, and served previously as a Project Officer at the Air Force Cambridge Research Center.

E. S. Farrow: 1898-1962

AN ALUMNI Term Member of the M.I.T. Corporation from 1945 to 1950, Edward S. Farrow, '20, died on August 9. He was formerly a vice-president and assistant general manager of the Eastman Kodak Company with which he was associated for 37 years prior to his retirement in 1958. Mr. Farrow also was active in Rochester civic organizations and was grand consul of Sigma Chi fraternity.

He is survived by his wife, Marjorie Backus Farrow, six children, and five grandchildren.

Rising in Faculty

M.I.T. Faculty promotions not previously reported in The Review include those of *Leo Brachtenbach* and *David A. Sena* as associate professors in Air Science.

Recently named assistant professors include *Alvin W. Drake*, '57, *Richard Y. Kain*, '57, *Harry B. Lee, Jr.*, '57, *Trenchard More, Jr.*, '57, and *James R. Melcher* in Electrical Engineering; *Barry B. Spacks* and *William Youngren* in Humanities; *Forbes T. Brown*, '56, in Mechanical Engineering; *Richard H. Lemmer* in Physics; *Richard I. Mateles*, '56, in Nutrition; and *Bradbury Seasholes* in Economics.

(Continued on page 6)



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Individuals Noteworthy

(Continued from page 4)

Alumni in Headlines

MRS. RAY W. HART (Marion Rice, '13) of New York, flew the Atlantic to Ireland last summer in a single-engined plane—her second such trip. . . . Winfield I. McNeill, '17, was saluted in The Hartford (Conn.) Courant for recruiting retired businessmen to form a Business Improvement Service for Hartford's Chamber of Commerce. . . . John L. Riegel, '19, chairman of the Riegel Paper and Riegel Textile Corporations, was the subject of a business personality profile in The New York Times. . . . James S. McDonnell, Jr., '25, was hailed in Cape Canaveral dispatches as "in a sense the father of all space capsules in the Mercury program." . . . Charles M. Jordan, '49, who won national honors in model car building when a sophomore, became executive in charge of automotive design for General Motors. . . . David J. Bernays, '55, Leif-Norman Patterson, '57, and Charles B. Sawyer, G, scaled the Peruvian peak known as Nevado Tullparaju.

Alan N. Stroh: 1926-1962

AN AUTO ACCIDENT near Steamboat Springs, Colo., in September took the life of Alan Neil Stroh, who came to M.I.T. four years ago as a Sloan postdoctoral fellow and became an associate professor of mechanical engineering in 1959. Dr. Stroh was a native of South Africa. He received B.Sc. and M.Sc. degrees from the University of South Africa and, in 1953 a Ph.D. from the University of Bristol.

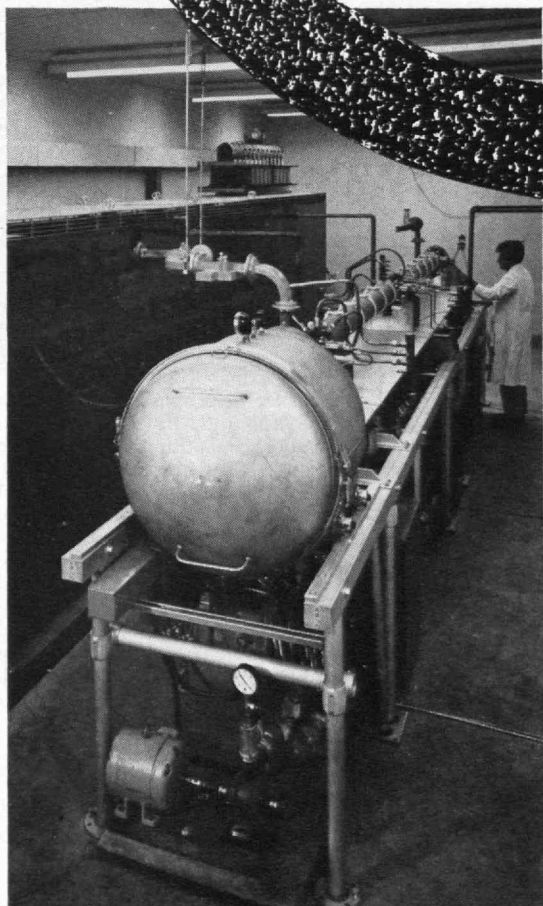
Dr. Stroh was en route at the time of the accident to the Boeing Scientific Research Laboratories in Seattle. He is survived by his mother, Mrs. Iris M. Stroh of Queenstown.

Educational Council Head

D. HUGH DARDEN, special assistant in the M.I.T. Development Office for the last two and a half years, has returned to the Educational Council as its Director and will also serve as Associate Director of Admissions. James H. Eacker, '55, has left the Council Office to become Administrative Officer of the Department of Mechanical Engineering.

(Continued on page 8)

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Individuals Noteworthy

(Continued from page 6)

Honors to Alumni

RECIPIENTS of recent awards and similar distinctions have included:

Thomas C. Desmond, '09, a citation by the Science Advisory Committee for services to schools of Newburgh, N.Y. . . . *Ellsworth G. D. Paterson*, '19, the Brumbaugh Award by the American Society for Quality Control . . . *Harold L. Hazen*, '24, the Lamme Medal by the American Society for Engineering Education;

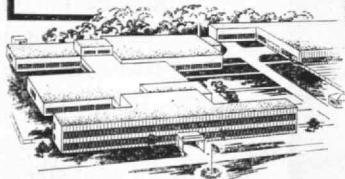
Arthur A. Jones, '29, and *Charles B. Bradley*, '32, the Award of Merit by the American Society for Testing and Materials . . . *James B. Fisk*, '31, a doctorate of science from Colby College;

Clifford V. Nelson, '38, a lifetime career research grant by the National Institutes of Health . . . *Claude E. Shannon*, '40, a doctorate of science from Princeton University . . . *Pete G. Peterson*, '46, named among America's 10 outstanding young men by the U.S. Junior Chamber of Commerce;

Commander John R. Baylis, '51, the Legion of Merit Award from the U.S. Navy . . . *John S. Saloma*, 3d, '56, the DeLancey K. Jay Prize at Harvard University.

(Continued on page 10)

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The missions and overall objectives of OEG and INS remain unchanged. OEG, the nation's senior military operations research group, acts as civilian scientific advisor to the Chief of Naval Operations; Commandant, U. S. Marine Corps; and to the U. S. Naval operating forces. Areas in which OEG contributes analytical guidance to decision-making include tactics, strategy, force composition, weapon employment, and research and development needs. The associated INS is continuing to develop as the Navy's scientific long-range planning advisor, studying such matters as the effects of scientific advances upon seapower, the nature of warfare and future threats in seapower, forecasts of enemy capabilities, particularly in a sea environment, and similar questions of national and international scope.

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Individuals Noteworthy

(Continued from page 8)

New Posts

NAMED in the news of promotions, elections, and appointments recently were:

Charles J. McCarthy, '16, as President, Flight Safety Foundation . . . *Earl P. Stevenson*, '19, as President, Greater Boston Chamber of Commerce and as Chairman, Industrial Applications Advisory Committee, NASA . . . *Crawford H. Greenewalt*, '22, as Chairman of the Board, E. I. du Pont de Nemours and Company;

Eger V. Murphree, '23, as President and a Director, Esso Research and Engineering Company; and as a Vice-president and Research Policy Co-ordinator, Standard Oil Company (New Jersey) . . . *William L. Stewart, Jr.*, '23, as Chairman, Union Oil Company of California . . . *James A. Drain*, '26, as President, Joy Manufacturing Company;

William Meehan, '26, as Boston Unit Head, The Great Atlantic and Pacific Tea Company . . . *Joaquin*

J. Llanso, '29, as Vice-president and General Manager, Worthington Argentina, S.A.I.C. . . . *Gordon S. Brown*, '31, as Member, Advisory Committee to the Faculty of Engineering, University of West Indies, Jamaica;

Michael Anthony, '32, as Group Manager, Nuclear Products, *George L. Williams*, '39, and *John F. Wilson*, '41, as Vice-presidents, Metals & Controls, Inc., divisions of Texas Instruments Incorporated . . . *Donald G. Fink*, '33, as General Manager, Institute of Electrical and Electronic Engineers;

Gilbert W. King, '33, as Member, U.S. Air Force Scientific Advisory Board . . . *Nicholas G. Dumbros*, '34, as Assistant to the President and Chief Economist, The Ohio Oil Company . . . *Robert F. Flood*, '35, as President, Linde Company, division of Union Carbide Corporation;

Elmer J. Roth, '35, as Controller, Stop & Shop, Inc. . . . *Walter G. Bain*, '36, as Vice-president, defense electronic products, Radio Corporation of America . . . *Edward L. Dashefsky*, '36, as a Vice-president, Raytheon Company;

John A. Kleinhans, '36, as Manager, chemical division, General Tire and Rubber Company . . . *Howard S. Turner*, '36, as Member, Industrial Applications Advisory Committee, NASA . . . *James D. McLean*, '37, as President and Director, Highway Trailer Industries, Inc.;

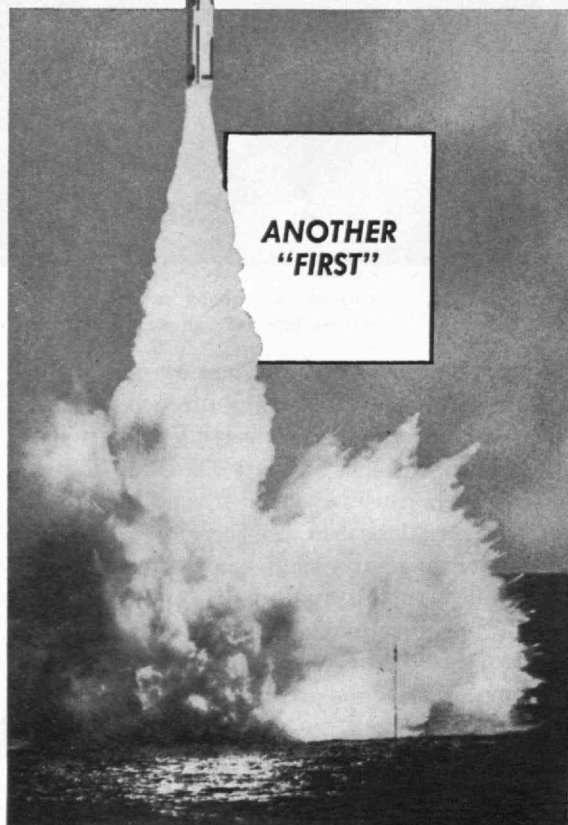
Joseph E. D'Angelo, '38, as Vice-president for Operations Control, Reichhold Chemicals, Inc. . . . *Walter B. Brewer, Jr.*, '40, as Vice-president, Aerospace Corporation . . . *Irving Koss*, '41, as General Manager, E. F. Johnson Company;

Harry H. Wasserman, '41, as Chairman, Department of Chemistry, Yale University . . . *Robert A. Batson*, '42, as a Director, Associated General Contractors of Mass. . . . *Henry S. Brightman*, '42, as President, L. J. Wing Manufacturing Company;

Edward O. Vetter, '42, as Head, Materials and Controls Division, Texas Instruments Incorporated . . . *Robert B. Handelman*, '43, as Vice-president, Kearfott Division, General Precision Aerospace . . . *Richard J. Steele*, '46, as Vice-

(Concluded on page 12)

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*RG-293/U and RG-294/U

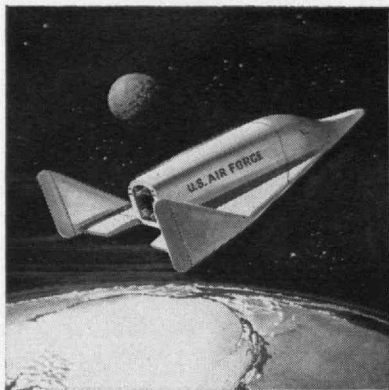


Watertight Multiconductor Cables

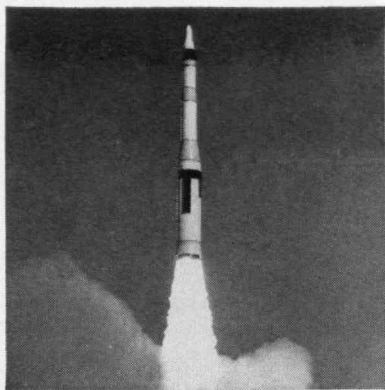
BIW is making "SW Type" multiconductor cables which will not leak under pressures of 500 and 1,000 PSI on the exposed end of the cable. Used for missile and control cables they are reliable beyond Navy tentative specifications. These are 1 SWA, 2 SWA, 3 SWA, 2 SWU and 3 U. All butyl insulated conductors with no leakage at 1,000 PSI are used for Polaris and other submarine applications. Typical of this type is a modified version of MWF-24.

We will be glad to send information and reports on the performance of all these cables.

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System contractor: DYNA-SOAR



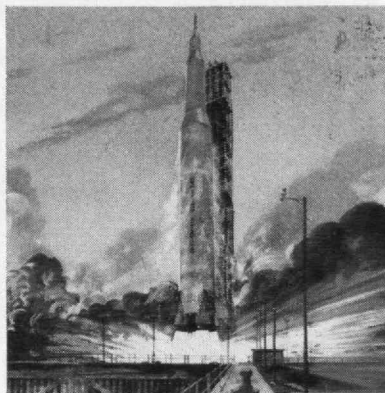
System integration: MINUTEMAN



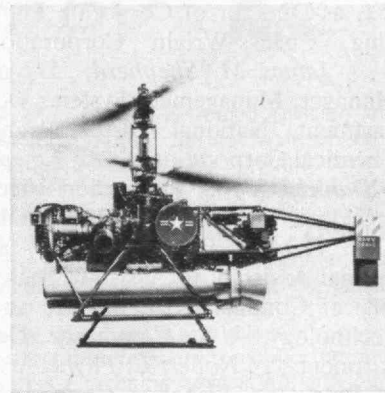
Boeing 707 with Boeing-Vertol 107



New Boeing 727 short-range jetliner



Space booster development: SATURN S-1C



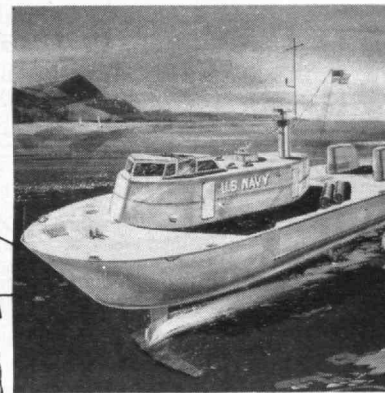
Boeing turbines power helicopters



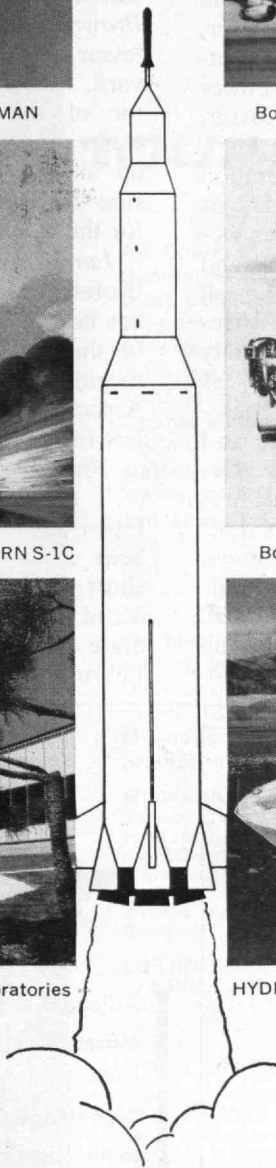
Boeing KC-135 jet tanker-transport



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BOEING

Individuals Noteworthy

(Concluded from page 10)

president, Western Division, George Fry & Associates;

Armand V. Feigenbaum, '48, as President, American Society for Quality Control . . . *Lloyd A. Haynes*, '49, as Manager, Systems and Procedures, U.S. Instrument Corporation . . . *James W. Geiser*, '50, as Assistant to Vice-president-Engineering, West Penn Power Company . . . *Arnold F. Kossar*, '51, as Director of Corporate Planning, Curtiss-Wright Corporation . . . *James M. Shepherd*, '51, as Manager, Management Systems Department, National Distillers and Chemical Corporation . . . *G. Lowell O'Daniel*, '53, as Production Vice-president, Lever Brothers Company . . . *Reuben Pomerantz*, '53, as Special Assistant to Assistant Secretary of Commerce for Science and Technology, U.S. Commerce Department . . . *Robert L. Payne*, '54, as President, Fisheries Council of Canada . . . *Donald G. Brennan*, '55, as President and Trustee, Hudson Institute . . . *Neil E. Rogen*, '56, as President, Rate Engineering Corporation . . . *John B. Carna-*

han, '61, as Manager-Distribution, H. J. Heinz Company.

Faculty Activities

ALI JAVAN, Associate Professor of Physics, discussed the gaseous optical maser's use at the International Conference on Precision Electromagnetic Measurements in Boulder, Colo., last August. . . . *Roger W. Brown* of M.I.T. has become Professor of Social Psychology at Harvard. . . . *Martin Meyerson*, Director of the Harvard-M.I.T. Joint Center for Urban Studies, is serving on an Air Conservation Commission for the American Association for the Advancement of Science.

James M. Symons, '55, Assistant Professor of Sanitary Engineering, has become a public health engineer for the Robert A. Taft Sanitary Engineering Center in Cincinnati. . . . Associate Professor *John McCarthy* has returned to Stanford University as Professor of Computer Science. . . . *Kurt S. Lion*, Associate Professor of Applied Biophysics, will help *Peter K. Stein*, '49, give a short course in "How to Obtain Valid Data on Purpose" at Arizona State University, January 28 to February 1, 1963.

Postdoctoral Fellows

ALUMNI among the 23 young engineering teachers appointed 1962-63 Ford Foundation Postdoctoral Fellows by Dean Gordon S. Brown, '31, were: *Roy Kaplow*, '54; *Ronald B. Goldner*, '56; *Richard Y. Kain*, '57; *Trenchard More, Jr.*, '57; and *James R. McCord*, 3d, '59.

Fellows holding this award last year and reappointed for a second year included: *John Blair*, '54; *Paul E. Gray*, '54; *Edward F. Kurtz, Jr.*, '54; *James G. Gottling*, '56; *Dean C. Karnopp*, '56; *John M. Reynolds*, 3d, '57; *Adel F. Sarofim*, '57; *Robert M. Rose*, '58; *Henry A. Becker*, '61; *Thomas R. Clevenger, Jr.*, '61; and *Philip A. Drinker*, '61.

The Stratton Awards

TO RECOGNIZE outstanding work by National Bureau of Standards scientists, the bureau has established Samuel Wesley Stratton awards, named after its first director and the eighth president of M.I.T. Winners of the awards this year were *James R. Wait*, a noted authority on radio wave propagation; and *Peter L. Bender* and *Raymond L. Driscoll*, whose work provided a better standard for magnetic fields.

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We urge you to inquire about the opportunities and advantages of being associated with our new APOLLO program and the other navigational projects now underway at AC. If you have experience in any one of the following specialties, and a BS, MS or PhD in Electrical Engineering, Mechanical Engineering, Physics or Mathematics, send your résumé to J. A. Raasch, Director of Scientific and Professional Employment, AC Spark Plug Division, Dept. 5753, Milwaukee 1, Wisconsin. You will receive a prompt reply.

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Said Gaspard de Coriolis: *"A particle which is subject to no forces in a rotating coordinate system experiences a radial acceleration and a tangential acceleration."*

It was around 1840 that Coriolis discovered what has since become known as the Coriolis Effect. He noticed objects above the earth tend to rotate relative to the earth's rotation . . . to the right in the northern hemisphere, to the left in the southern.

The Coriolis Effect is in force in outer space, too. If a space vehicle is rotated in order to establish artificial gravity, the necessarily short radius of the rotation causes a Coriolis force. This creates orientation problems for a human occupant. To eliminate this difficulty, a scientist at Lockheed Missiles and Space Division conceived the idea of connecting the vehicle to an auxiliary fuel tank by a half-mile-long cable. Thus, if the whole system is then rotated at a reduced speed around its center of mass gravity, the longer radius greatly minimizes the Coriolis force. Right now—on the drawing boards at Lockheed—is an enormously advanced space vehicle system which utilizes this concept, in addition to many others.

Fortunately, natural laws are about the only restrictions which circumscribe scientists and engineers at Lockheed Missiles & Space Company. The climate in Sunnyvale and Palo Alto, on the San Francisco Peninsula, is close to perfection. The creative atmosphere—the opportunity to work on such important projects as the AGENA Satellite series, the POLARIS FBM, or even more advanced concepts such as the space system cited above—is the dream of the creative engineer.

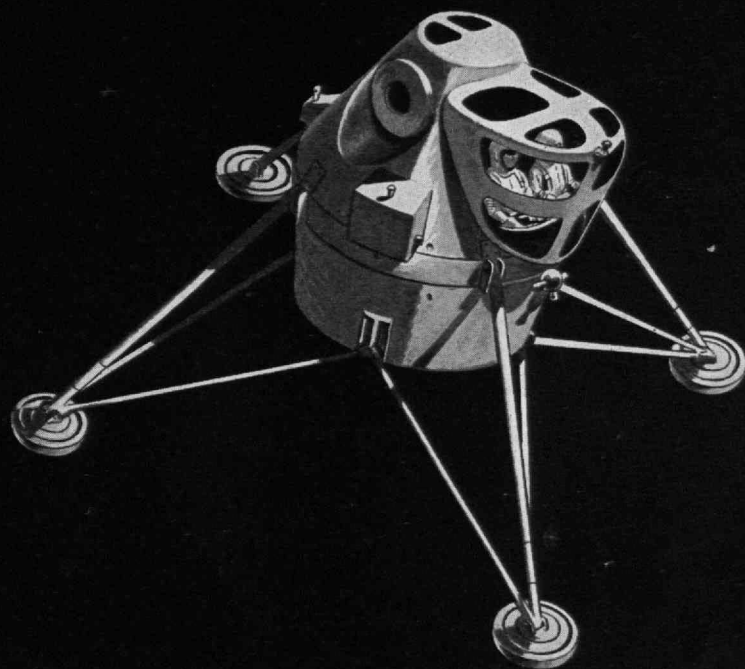
Why not investigate future possibilities at Lockheed? Write Research and Development Staff, Dept. M-11A, 599 North Mathilda Ave., Sunnyvale, Calif. U.S. citizenship or existing Department of Defense industrial security clearance required. An Equal Opportunity Employer.

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For as long as four days, the two astronauts will explore the moon—one of man's most incredible scientific opportunities—using the "moon bug" as home base. Then they will rendezvous with the mother ship, in which a third astronaut will have been circling the moon. They will re-enter the Apollo command module, jettison the "moon bug" and head for Earth.

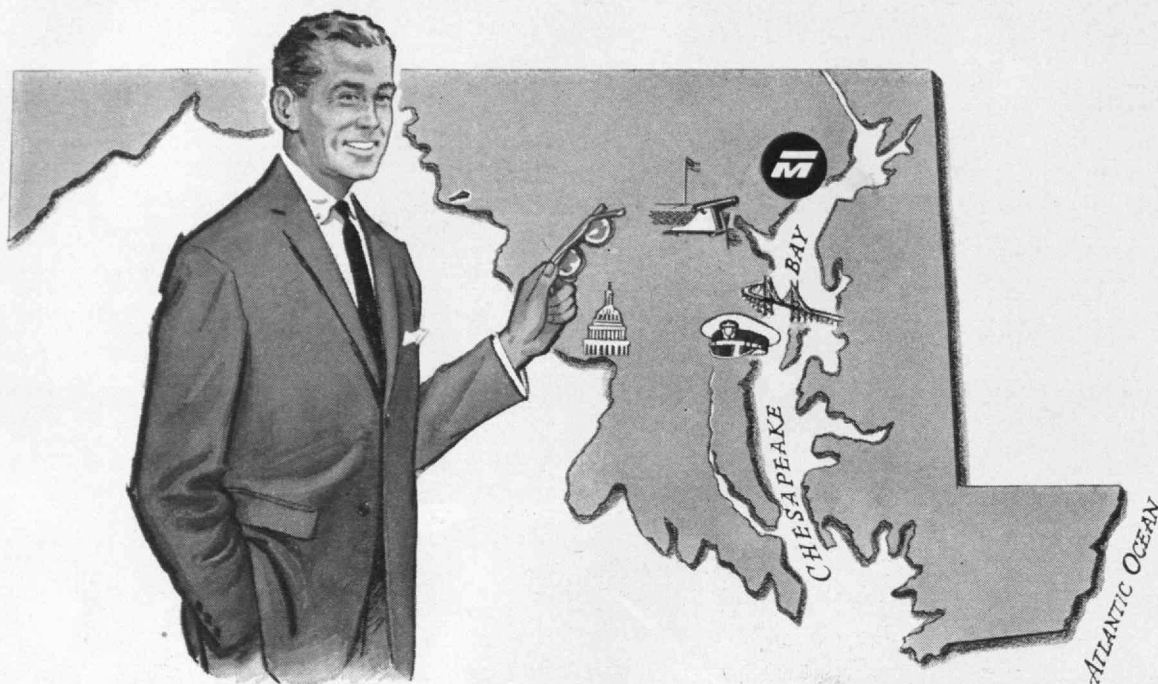
It will happen before this decade is over.

This venture and NASA's many other advanced projects require

scientists and engineers with the highest qualifications. If you are interested in employment with NASA, please send a resume to Personnel Officer of: NASA Headquarters (BPH), Washington 25, D. C.; NASA Goddard Space Flight Center, Greenbelt, Md.; NASA Langley Research Center, Hampton, Va.; NASA Lewis Research Center, Cleveland, Ohio; NASA Marshall Space Flight Center, Huntsville, Ala.; NASA Ames Research Center, Mountain View, Calif.; NASA Flight Research Center, Edwards, Calif.; NASA Manned Space Craft Center, Houston, Texas; NASA Launch Operations Center, Cocoa Beach, Florida.



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Systems
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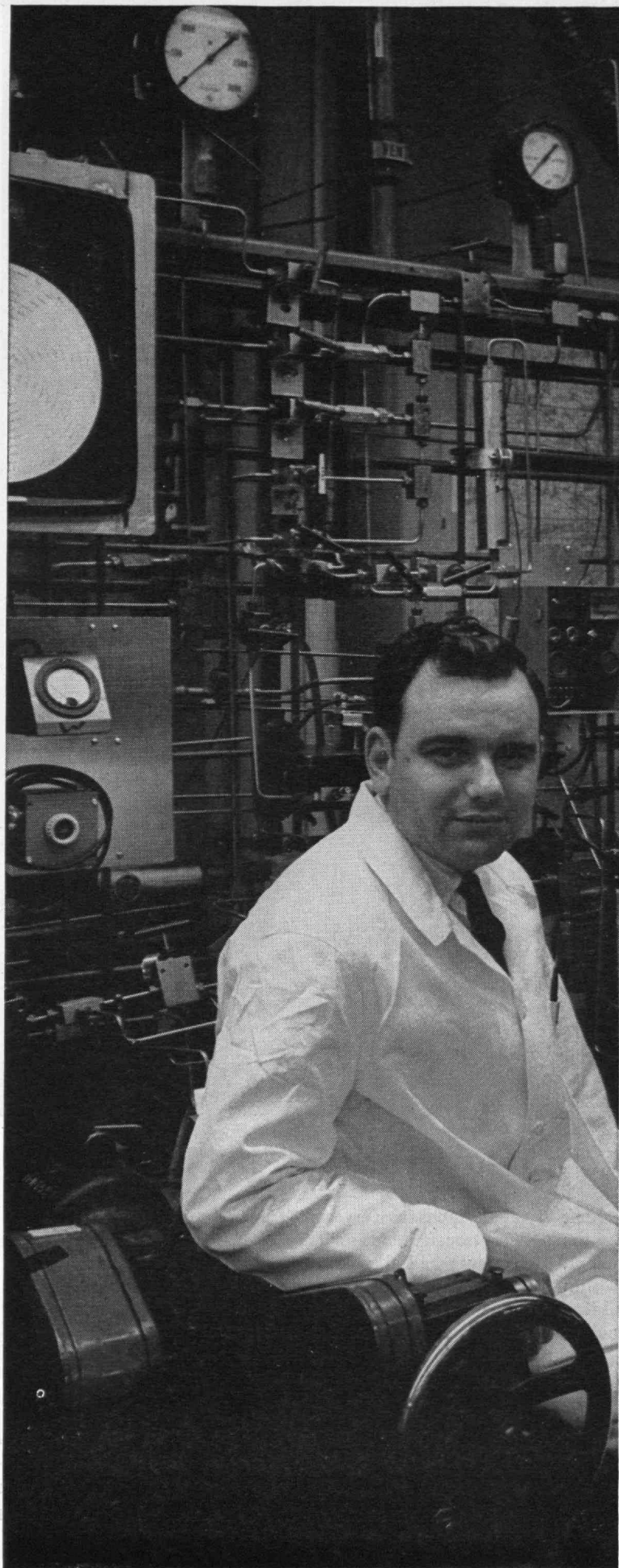
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Variety: the spice of life at American Oil

by Jim Koller

"When I was first interviewed by American Oil representatives I was told I'd be given a free hand in guiding a wide variety of projects. This promise has certainly been kept!"

Jim Koller, 25 years old, came to American Oil right out of the University of Wisconsin where he earned his Bachelor of Science degree in Chemical Engineering. An Evans Scholar at Wisconsin, Jim describes his job at American Oil this way: "I work on basic chemical engineering problems, specializing in reactor design and process development problems. Before a process can go commercial, it must be tested in pilot plants. That's where I come in." Jim wants to stay in the technical research area, and plans to enroll in the Illinois Institute of Technology night school for courses in advanced mathematics.

The fact that many gifted and earnest young men like Jim Koller are finding challenging careers at American Oil could have special meaning for you. American Oil offers a wide range of new research opportunities for: Chemists—analytical, electrochemical, inorganic, physical, polymer, organic, and agricultural; Engineers—chemical, mechanical, metallurgical, and plastics; Masters in Business Administration with an engineering (preferably chemical) or science background; Mathematicians; Physicists.

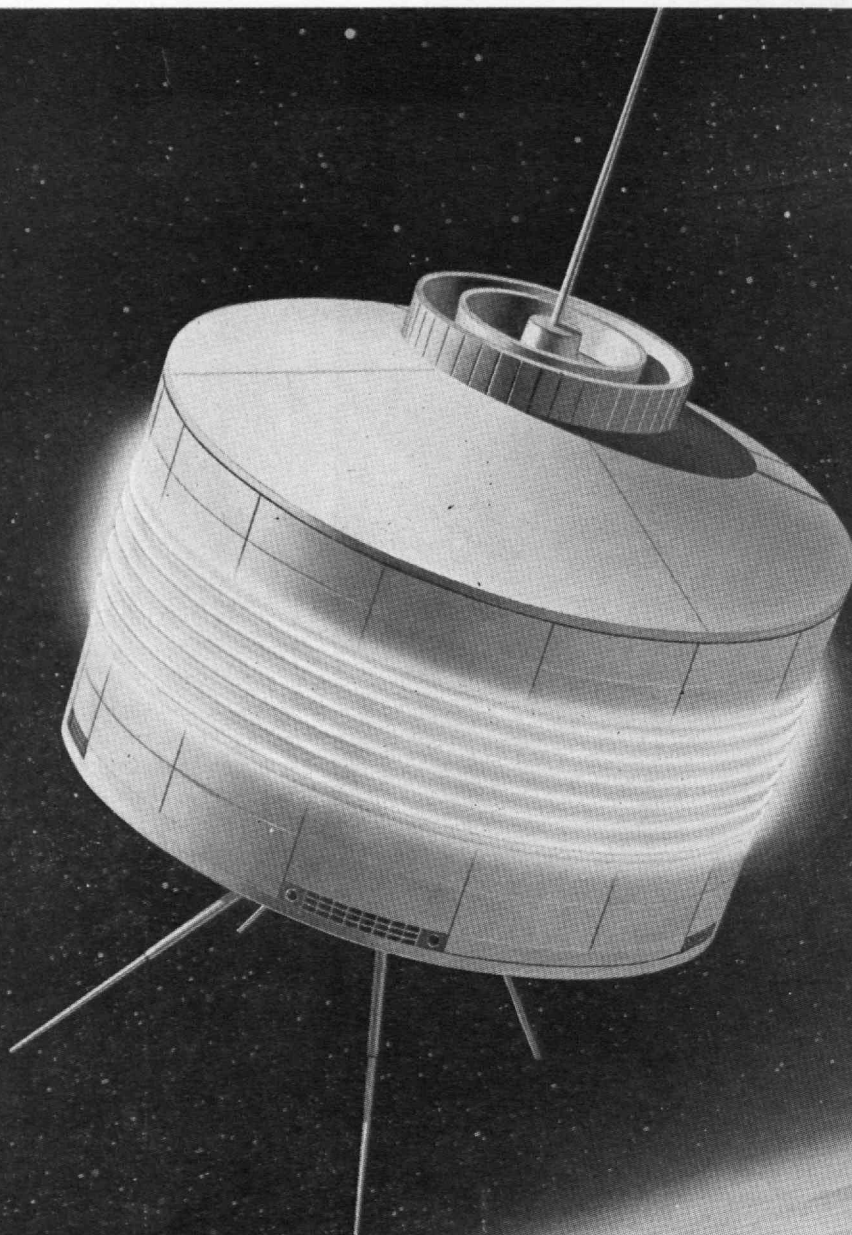
For complete information about interesting careers in the Research and Development Department, write: D. G. Schroeter, American Oil Company, P.O. Box 431, Whiting, Indiana.

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This critical development work is supported by more than a quarter century of Garrett heat transfer experience and is being put to extensive use in America's most advanced aircraft, missile, nuclear and space programs.



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ENGINEERS

PHYSICISTS

Campus interviews at Massachusetts Institute of Technology will be conducted on November 29, to select qualified engineers and physicists to take part in the development of Stanford University's new two-mile linear electron accelerator

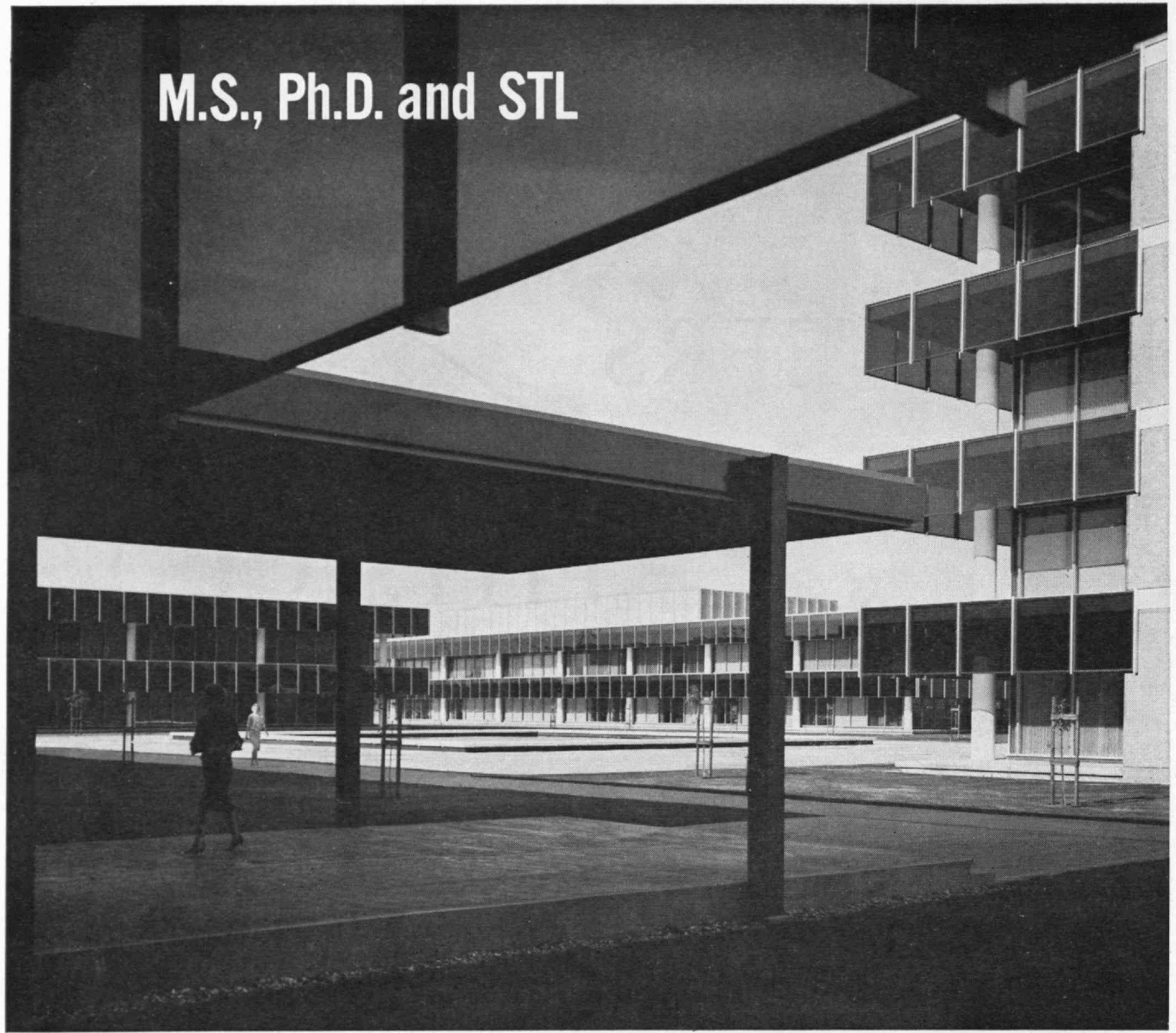
The accelerator, being built under a \$114,000,000 contract with the Atomic Energy Commission, is designed to produce an electron beam of 10-20 Bev (billion electron volts), which can be increased to 40 Bev should it later prove desirable. Planned for completion in six years, the Stanford Linear Accelerator Center will then take its place among the principal international centers of particle physics research.

The Center presents an outstanding opportunity to work in highly stimulating intellectual atmosphere. It is situated on the 9,000 acre Stanford University campus on the beautiful San Francisco Peninsula. Engineers and Physicists working toward advanced degrees in the following fields are especially needed at this time: ■ ELECTRON BEAM OPTICS ■ KLYSTRON TUBE DEVELOPMENT ■ MICROWAVE ENGINEERING ■ MACHINE DESIGN.

To arrange for an interview on the above date, please contact your University (or Engineering) Placement Office. If this is inconvenient, write Mr. G. F. Renner, Employment Manager, Stanford Linear Accelerator Center, Stanford University, Stanford, California. An equal opportunity employer.

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Two Cultures

BY VANNEVAR BUSH, '16

IT HAS recently and often been asserted that there are two cultures, and that these cultures are to a considerable extent mutually exclusive, and bound to be more so. The first kind is asserted to be scientific, involving an understanding of things, and the second liberal, involving an understanding of men, their history and their emotions. Sometimes it is implied that the former is crass, narrow, and painfully utilitarian, while the second is noble and elevating to the spirit. I wish to disagree with this whole absurd bag of tricks.

Certainly there are two kinds of culture, and certainly it is worth while to distinguish them and to develop them intensively and with discrimination. But they do not divide in this way.

Any man who understands things, and is not interested in people, is not cultured. He has not been educated, and has not educated himself. Also, in this modern world, where the applications of science are transforming civilization, any man who is deep in history or literature, and who shirks from an elementary understanding of the great evolution in science, while he may be polished, is nevertheless grossly ignorant. This does not mean that a single individual can qualify as an expert in a dozen such diverse lines as atomistics, oriental pottery, solid state physics, medieval poetry, electronics, and Latin. The time is past when great minds could encompass substantially all of knowledge—if it ever existed. It is rather a matter of interest, and a determination to acquire genuine breadth, without at the same time losing the ability to excel in some intellectual specialization. The division into scientific and liberal is arbitrary, and makes no sense. Moreover, a conviction that such a division is desirable or inevitable can do harm; it has already done so.

But I assert there are two varieties of culture, and that a grasp of their characteristics is worthy of thought. To be clear, I should define. And I would define the first type of culture very simply: it is the

Observations by the M.I.T. Corporation's Honorary Chairman to Alumni Association Officers

basis of wisdom. It involves an understanding both of nature and of men. It provides the foundation upon which a wise man may base judgments concerning everyday affairs or great issues. It provides the background for the conduct of a useful and satisfying life, and for a salutary influence upon the lives of others.

What, then, should be the nature of education either formal or self-conducted which will inculcate this type of culture? This can best be answered by asserting what it should not be. First, it should not be overspecialized to the exclusion of breadth. The man who studies the chemical aspects of genetics, who becomes a master in that field, and who has no interest whatever in the current political scene, or the masterly eloquence of a Churchill, or the subtle psychological insight of Shakespeare, is not cultured in accord with our definition. Neither is the individual who develops a reputation as an archaeologist of the Mayan civilization, but who cares not a whit for the influence of the transistor on modern communications. Second, it should not be superficial. The chap who can talk impressively, for three minutes, upon any subject under the sun, from moon probes to Cretan water works, but who cannot talk intelligently for 15 minutes, among experts, on any subject whatever, is just a dilettante. He may have breadth, but he has no depth. Wisdom requires far more than extensive superficial knowledge, it requires also the ability to reason, whether by strict logic or by balance of evidence amid contradictions, an ability which is attained only by thinking intensively and exhaustively, surrounded by keen minds doing the same thing, competitors struggling for mastery, in a tough, demanding subject.

It does not matter too much what that subject may be, provided it is joined with a breadth of interest in adjacent subjects and more widely. Our cultured man may be a lawyer, or a surgeon, or a business executive, or a scientist, or a banker, or a linguist.

There is no area of man's accomplishments which does not require, for eminence, discipline in the development of thought processes. The mathematician and the skilled clinician use widely different methods of reasoning in their work, but both types are needed for the effective handling of affairs in our complex civilization. The essence of acquiring a solidly based culture is that it should simultaneously create a trained mind capable of accomplishment in a specific area, and a broad range of interests effectively pursued by reason of that acquired skill, to the end that judgment may be soundly supported, to the end that there may be wisdom.

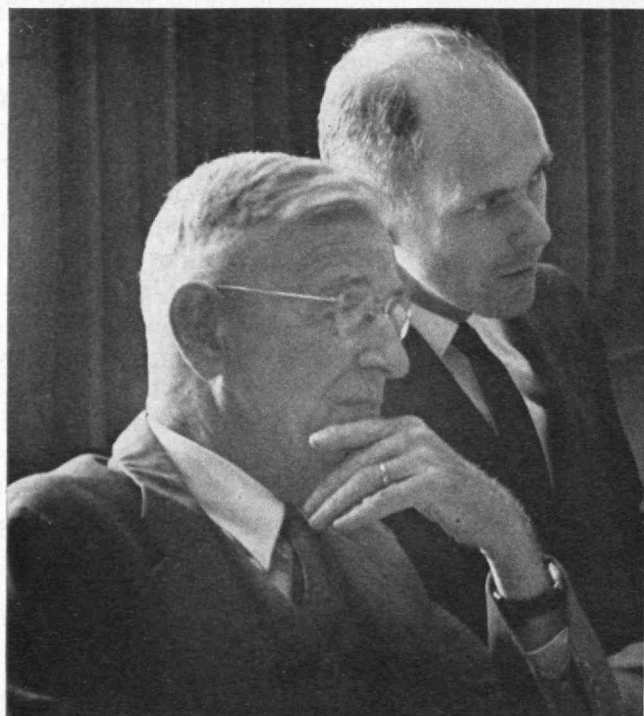
It should be emphasized that this sort of culture is not merely utilitarian. True, most of us earn our income by use of our special skills. True, the country needs a wide variety of specialists, highly capable in their specialties if we are to manage our intricate social and industrial relations to advantage. True, also, we live in a hazardous world, and our safety and material progress are intimately interconnected. But a culture could support all these things and still be inadequate. There is more to life than material or professional accomplishment. Wisdom which extends only over the area of self-advancement is not wisdom at all. Success, measured in terms of the accumulation of a fortune, or even in terms of public acclaim, is still cramped into narrow confines. To live a full life man needs to reach much farther than this; his primary motivations of self-preservation, the urge to perpetuate his genic constitution, the desire to accumulate or to conquer, these are the beginnings only of a truly civilized existence. Beyond these is a sublimated deep yearning to play an effective part in the great experiment on which man-

kind is embarked, to be a real factor in the evolving fabric of a civilized life. It is exemplified in a practical idealism, in seasoned altruism, in a genuine interest in the welfare of fellow men. Like all primary motivations it leads at times to perversions, and to eccentricities. But only when the goal is thus broad, even though it be but dimly perceived, is there true satisfaction in living. A culture, to be genuine, thus extends far beyond the basis for acquisition, far beyond even the basis for effective contribution to the material and professional affairs of the times; it stretches toward something much higher and much deeper. It aims to provide the basis for true wisdom. And only by pursuing this shadowy goal is there deep and abiding satisfaction in living.

THERE is a common fallacy in viewing this whole subject. We speak of necessity of experts, of professional skills, of adding to man's knowledge of his environment and of his relations with his fellows. From this we are apt to conceive of some sort of cultural aristocracy, some exclusive class to which only a few may belong. True culture knows no such boundaries; wisdom is not confined to manipulation of the intricate. Skill, which aids our great objectives, is admirable wherever found. A democratic society in which wisdom appeared only among a chosen elite would soon wither.

Consider a skilled mechanic, one who can fabricate the parts of a gyroscopic inertial guidance system, working to tolerances far less than the wave length of light. He is an accomplished man, contributing uniquely to our affairs. His skills have been built on assiduous study and practice over many years. The mysteries with which he deals are as fully mysteries to the great doctor or lawyer, as theirs are to him. He belongs to no national societies, writes no degrees after his name, makes no speeches. Yet he may be far more an accomplished citizen than his boss, or his boss's boss. Among the multitudes of such individuals are also those who have developed a broad range of interests, and a sound grasp of events and affairs. They are men of influence in their own circles. Without them our political structure would falter. We give them scant recognition, and secondary material rewards only. But we would do well to avoid all snobbishness when we think of culture. These are cultured men. They are also, often, wise men. They often lead lives of more genuine satisfaction than those we acclaim. True culture must extend throughout the entire fabric of society, if our experiment in self-government is to work. Education, well conceived and carried out can help enormously, of course, in creating it. But the essential criterion for its furtherance is general recognition that it is worth the effort necessary to achieve it, at whatever level of social stratification it may appear.

Having defined one type of culture as the true basis of wisdom, have we exhausted the field? By no



Dr. Bush with D. Reid Weedon, '41, at alumni gathering.

means. There is a second type, by no means secondary. To live wisely in the complex affairs of the day, and with an influence on future trends, is salutary, and extends far beyond mere material success. It can yield true satisfaction. But even this is not to live fully. There is a second type of culture which transcends even this. It cannot be taught, although it can be exemplified and inspired. It yields to no concrete definition.

You all know what I mean, although I cannot tell you! The honking of a wedge of geese on a still night. The pirouetting of a lovely child, as she practices her fancy steps alone. The sparkle of water in a turbulent brook, the dimple on a still backwater as a fish rises. The sighing of wind in the pines. The subtle nuances of great music. The majesty of soaring columns in a cathedral. Who can classify or define when such things appear, or who would wish to. Moreover who would degrade by trying to tie their appeal to the emotions into some system of cerebral evolution? Yet who would say that any man is truly cultured who is blind to all this.

We know that appreciation of many such interests, which stir the emotions deeply, can be enhanced if a technical basis is laid for better grasp and understanding. The appeal of the graceful soaring of a great bird is still an emotional appeal if one understands a bit of aerodynamics. A thrill from viewing a great painting is more intense if one knows something of the long history through which this art has evolved. A modern symphony can be enjoyed only by those who have lived closely with music for many years. But it is the techniques only which can be taught.

This second type of culture has nothing whatever to do with utility. It has little to do with wisdom, in terms of men's current affairs and material aspirations. But it has much to do with wisdom in a deeper and wider sense. Much of it is inborn. Yet it can be developed and enhanced. And it can yield a joy in living which is far more genuine than that which comes from just being an effective cog in an intricate scheme of material and social existence.

One more thing needs to be said about it. Men grow old, and skills fade. A life of professional accomplishment ends, long before life itself terminates. The gray hairs come, the joints creak, the eyes grow dim, and the young men take over. But the joys of this second type of culture never fade.

For our safety and progress, for the success of our political organization, for our material welfare and for our physical and mental health, for all that is implied by successful and progressive civilization we need to enhance by all means possible, and in all strata of society, the culture which is at the basis of wisdom, wisdom regarding the control of nature and the affairs of men. But, in so doing, we should never forget that there is beyond this a culture, and a wisdom, undefinable, intangible, which is essential to a

full life, and which may indeed, at some day in the long future, be far more meaningful than merely learning to manage nature, or to order the relationships among men.

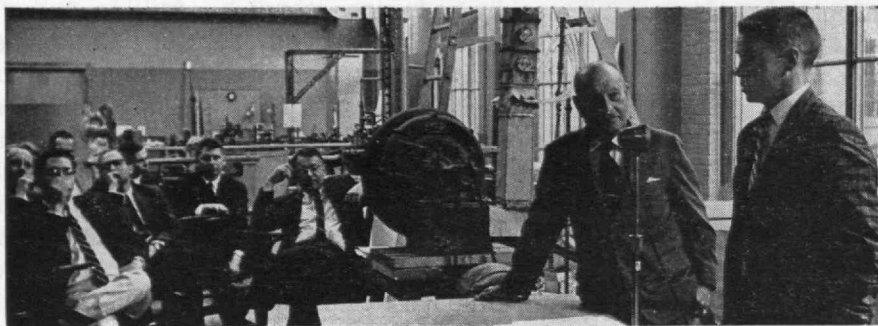
There are thus two cultures, one of which can be defined and purposefully developed, and the other only vaguely grasped. But this is a far cry from trying to separate the interests of men arbitrarily into the scientific and the liberal. Our first culture, on which we depend for our well-being and for our intellectual advancement, cannot be thus fragmented without destroying its inherent nature.

Now why do I struggle to expound this subtle matter before the group [of M.I.T. Alumni] which is gathered here today? In fact why do we gather here at all? We assemble for a number of reasons, but one of them touches closely the subject we have here reviewed very briefly.

We gather because we enjoy the association with successful fellows in a common cause. We take justifiable pride in being a part of a great and successful undertaking. We remember all that this institution did for us in our younger days, and we are happy to work and to contribute our efforts with confidence that it will still more effectively instruct and inspire the generation which follows us. We band together to the end that worth-while youngsters may have a heightened opportunity to serve society usefully, and to live lives of accomplishment and satisfaction. We have a common interest because we know that this institution leads in the essential task of rendering our country safe and prosperous in the hazardous days that lie ahead.

But beyond this there is another reason why we meet in a common endeavor. In the confused search for the basis of a true culture we believe this institution of ours is in the forefront. Leading in science and engineering, blazing new paths in a better understanding and control of the physical world, it is also leading in a sound broadening of education to cover also the understanding of man's social and political interrelationships, his history, his psychological intricacies, his gropings toward law and order, his struggles to govern in an increasingly complex world without inhibiting that personal freedom and opportunity which has rendered this nation great and prosperous. Unhampered by hoary traditions or vested interests it seeks to create a new and more genuine basis of true culture. We may differ on how this can best be accomplished, but we join in the conviction that the effort to accomplish it is well worth while. We join with enthusiasm because we believe that here a young man will acquire in the future that cultural background which will form for him a true basis for wisdom. We strive because we feel that here he will be inspired to go forward to a life of accomplishment and satisfaction, and beyond this, to a life of joy in living.

Trend Of Affairs



The President's Report

THE 1962 REPORT of President Julius A. Stratton, '23, which most of The Review's readers will receive soon, reviews the achievements of M.I.T.'s Second Century Fund workers and the status of construction projects now well under way. It speaks enthusiastically of the educational innovations in the School of Engineering and elsewhere, discusses the place of the new interdepartmental centers, and calls particular attention to recent developments in the life sciences and planetary and space science.

"Throughout this extraordinary period of change and growth," says Dr. Stratton, "M.I.T. must hold fast to its central mission: to send forth men and women of the highest professional competence, with the breadth of learning, the understanding, and the character to deal creatively with the increasingly complex problems of this modern technological society. Indeed, it will be through the quality of our graduates that we meet our ultimate obligations to research, to industry, and to government."

In his discussion of the interdepartmental centers, the President emphasizes that they have been "generated spontaneously as a device for dealing effectively with the exceedingly difficult organizational problems of contemporary science and engineering." Conceivably, he notes, some of the new fields such as materials, communication sciences, and energy conversion, may be represented some day by formal departments, but he sees no evidence that the traditional departmental structure is about to wither away.

To illustrate how new alliances arise from the mutual interests of members of the Faculty, he cites the formation this year of a Committee on Planning and Space Science known as Compass. This has brought together members of the Departments of Mathematics, Physics, Meteorology, Geology and Geophysics, Electrical Engineering, and Aeronautics and Astronautics, "Thus," says Dr. Stratton, "we have here a bridge already forming between two other centers of research—the Earth Sciences and Astronautics."

In stressing the need for a physical environment that will contribute in a maximum way to the personal life and total educational experience of each student, Dr. Stratton says that in his judgment the most important single uncompleted objective of the Second Century Program now is the proposed Student Center.

"The development of a living institution is not an effort to be terminated at the end of a particular campaign," the report concludes. "In reporting upon the progress of the Institute, the temptation to emphasize change and innovation is almost irresistible. Yet it is also misleading; for the accent upon what is new and different seems to imply a rejection of the past and so, to a degree, distorts the truth. M.I.T. was, in fact, founded upon an original set of ideas that over the years have continued to prove sound and that have imparted to the Institute its particular quality and character. Our entire history may be described simply as the amplification and fulfillment of those ideas in the context of contemporary society. And because we live in a very different kind of world from that of Rogers, or Maclaurin, or even of Karl Compton, we are also becoming a very different kind of institution."

"As the horizons of science and engineering expand, there will open before us almost limitless opportunities for the development of new fields. There is a readiness to innovate at M.I.T. and a flexibility of administration that allows us to take quick advantage of special situations. But we must not let this freedom, this openness of mind, lead us into ways of expediency. One of the particular merits of the Second Century Program has been that it has fixed our attention upon certain well-defined objectives. We need to maintain that focus and to keep before us the elements of a plan and a philosophy. We need constantly to renew and fortify that plan. It must at all times represent our best thinking about the future of M.I.T."

Support for Scientific Education

THE Charles F. Kettering Foundation, established in 1927 by the noted inventor whose name it bears, has granted \$250,000 to M.I.T. to support improvement of education in science. "The updating and reconstructing of scientific education, both in content and in teaching techniques, is a critical problem and one which must be met," Chairman James R. Killian, Jr., '26, observed when announcing this grant. "We are particularly grateful for the Foundation's most generous and timely support of this important work."

THE PHOTO (from the President's Report) at the top of the page shows Admiral Luis de Florez, '11, presiding at the presentation of awards for ingenuity in designing, which are given annually at M.I.T.

This Year's Freshmen

THE CLASS OF 1966 that registered at M.I.T. on September 17 totaled 890. More than 3,100 completed applications for membership in this class were reviewed by admissions officers, and Alumni helped to select three out of four of those invited to register.

Members of this freshman class came from 18 countries and every state in the union. There were representatives of 681 secondary schools among them, and 87.7 per cent had been in the top 10th of their recent graduating classes. More than a fourth of the members of this class were given Advanced Placement in one or more subjects.

There were 23 women in the group, and its youngest member was 15-year-old Susan Hemley, of Forest Hills, N.Y. The class also included Lewis H. Morton of Princeton, N.J., whose father, mother, and brother are Alumni of the Institute; and John F. Reintjes and Joseph I. Smulin, whose fathers are professors of electrical engineering.

Before beginning their studies the freshmen heard four "Introduction to Technology" lectures:

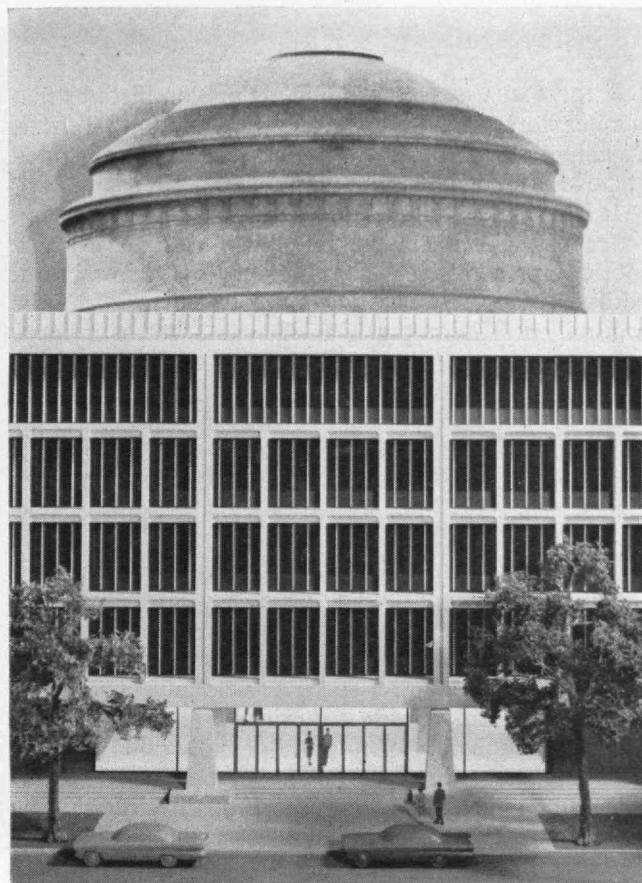
Provost Charles H. Townes called their attention to the various characteristics of science which have been stressed in definitions of it, and pointed out that many different branches of science can be understood on the basis of a very few principles. Visiting Institute Professor Edwin H. Land then described recent experiments in color perception and stressed the value to a creative person of a thorough knowledge of previous work.

Professor Harold S. Mickley, '46, took up "What Makes an Engineer Tick," and demonstrated recent developments in energy conversion, materials, and the utilization of natural resources. These included a hydrogen-oxygen fuel cell in which the electrolysis of water is reversed to produce an electric current, a visco-elastic liquid in which a steel ball will bounce before sinking, and an ionic exchange column with which saline water can be made potable. Professor Charles S. Draper, '26, recalled the importance of technology in previous conflicts between nations, noted the rapidity with which situations now change, and forecast interesting times for the young men preparing for professional careers.

The Big Jets Are Stronger

OTTO E. KIRCHNER, SR., '24, of The Boeing Company received the Monsanto Aviation Safety Award this year from the Aviation/Space Writers Association for 1961's "most significant and lasting contribution to aircraft operating safety." He documented and analyzed data on more than 400 approach and landing accidents reported in the last 15 years, and thus helped air carriers minimize such mishaps.

"It is extremely difficult to place your finger on an accident that was due to high cruising velocity," he said, and as evidence of the structural safety of the jet air transports, he cited an instance of a jet airliner coming in for a landing: "On the approach, the crew felt a jolt and decided to go around again, after which they landed. Inspection showed that the wing had imbedded in its leading edge a tree limb approximately eight inches in diameter and 42 inches long." Further inspection revealed that the airplane had been 250 feet to one side of the proper path. A smaller airplane in such circumstances would probably have been wrecked.



A MODEL shows how the Materials Center will change the view of M.I.T.'s dome from behind the main buildings.

A Rival to the Maser

A PARAMETRIC AMPLIFIER that seems likely to supplant the maser in microwave system applications was described last month at the National Electronics Conference in Chicago by Carl Blake, '48, of the Microwave Components Group in the Radar Division at Lincoln Laboratory. This amplifier uses a gallium arsenide varactor diode which was found to operate satisfactorily in a bath of liquid helium, and the noise temperature is the lowest ever reported for a parametric amplifier. The varactor diode is commercially available, and the amplifier can be built into a five-inch length of half-inch brass tubing. Its simplicity, sturdiness, and electrical performance are expected to make it preferable to a maser in many microwave applications and to open the way to others in which it is not feasible to employ a maser.

The Great Lakes History

RECENT investigations supported by radioactive dating have revised accounts of the Great Lakes history, Professor Jack L. Hough of the University of Illinois told the M.I.T. and Harvard-Radcliffe chapters of Sigma Xi this fall. These lakes, he said, were created only about 15,000 years ago, as melting water from the glaciers accumulated between retreating ice fronts and broad basins; and core samples from the bottom of Lake Huron have shown that its surface 10,000 years ago was 390 feet lower than it is at present. The aging process common to lakes has been slow in the Great Lakes, but is being accelerated now, he noted, by men's increasing use of their waters.

TV Rides Infrared Light

THE NEW MEANS of transmitting television pictures that were explored this year included, in addition to Telstar, a gallium arsenide diode developed and demonstrated at the M.I.T. Lincoln Laboratory.

It is a tiny, simple-looking thing, consisting of a thin wafer of single-crystal gallium arsenide on which a tiny spot of zinc is diffused. Two attached wires feed into it both the necessary operating power and the signal to be transmitted. The output is an intense beam of infrared light capable of accommodating up to 20 television channels or 20,000 ordinary voice telephone circuits.

This is not coherent light such as the optical masers produce, but it is confined to an exceedingly narrow range of frequencies just outside the visible range of the spectrum. It cannot penetrate clouds, rain, or snow as well as the microwaves do that are now used to relay television and telephone messages, although it should penetrate mist and fog somewhat better than visible light does. Moreover the beam from a gallium arsenide diode can penetrate the ionized plasma sheath that builds up around a space vehicle and now blacks out communication with it during its re-entry into the earth's atmosphere. For this and possibly other applications, indoors or in space (wherever weather is no factor), communication systems made possible by the new diode may prove extremely helpful.

As a small, simple, intense, and highly efficient source of easily modulated infrared radiation, such diodes also have important potential applications outside the communications field. The Federal Aviation Agency has expressed interest in the possibility of using them in a warning beacon system to help prevent collisions between aircraft in flight, and at Lincoln Laboratory, they are being tested now for use in a high-precision pulsed infrared radar that might play a valuable role in satellite rendezvous operations.

Robert J. Keyes and Theodore M. Quist, '58, of the Lincoln Applied Physics Group described the gallium arsenide diode at a Solid State Device Research Conference in Durham, N.H., last summer. They and Robert H. Rediker, '47, M. John Hudson, and C. R. Grant were primarily responsible for the first video transmissions made with it, in which high quality pictures were sent over distances up to 275 feet with very rudimen-

tary optical focusing and pointing equipment on a Lincoln Laboratory roof.

For these tests the M.I.T. group used a diode with an active area about the size of the head of a common pin. It produced a beam with a maximum power of about three watts. With larger diodes and more refined methods of focusing and pointing the beams, it is believed likely that peak outputs of 15,000 watts or more can be obtained and signals transmitted satisfactorily for 30 or more miles on the ground or over almost limitless line-of-sight distances in space.

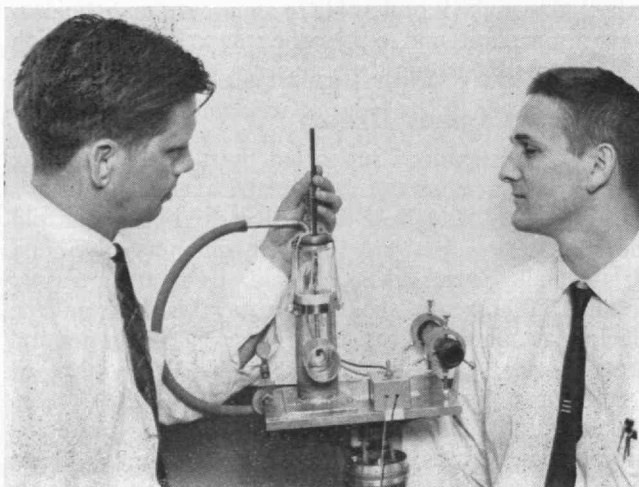
For optimum efficiency, the present diodes are operated at a temperature of about 370 degrees below zero Fahrenheit, which is that of the liquid nitrogen used to cool the diode's container. At this low temperature, the light spectrum is 100 angstroms wide, centered at a wavelength of about 8,600 angstroms (about 0.000003 inch), and the intensity of the light output from the diode is 10 times as great as the radiation at the surface of the sun, for the same area and spectrum width. Video transmissions also have been successfully made with diodes operated at room temperature, although at somewhat reduced efficiency and lower power output. In terms of frequency, the diodes operate at about 350 million megacycles per second, which is about 10 million times the frequency of the VHF ("Very-High-Frequency") radio signals used for commercial TV broadcasting.

The U.S. Army, Navy, and Air Force jointly support the Lincoln Laboratory research program from which the gallium arsenide diode resulted.

Aboard the Mariner

THE 447-POUND MARINER II that is due in the vicinity of Venus in a few weeks carries a microwave radiometer that may reduce the uncertainty here on earth about the atmosphere and surface temperature of that neighboring planet. Alan H. Barrett, Associate Professor of Electrical Engineering, is one of the quartet of researchers responsible for this part of the work assigned to the distant space probe. By scanning the surface of Venus for electromagnetic radiation at two wavelengths, 13.5 and 19.5 millimeters, it is hoped, indications may be obtained of the amount of water vapor in the atmosphere of Venus, and the question whether its surface is really extremely hot, or only seems so because of ionospheric phenomena, may be partially answered.

M.I.T. men have also been prominent in other recent space news: H. Nelson Upthegrove, '48, headed the Bell Telephone Laboratories' satellite launch operations department which contributed to the success of the Telstar project. . . . A three-story high research model of an inflatable space station, unveiled in Cleveland, was the work of the Goodyear Aircraft Corporation, headed by Thomas A. Knowles, '27. . . . The Ilikon Corporation, headed by L. J. Bonis, '59, produced a space simulator that set two world's records in space simulation for size and altitude. . . . Jerome Pressman, '51, discussed the probable effects of exhaust compounds from large rockets on the atmosphere, in a noteworthy article in *Aerospace Engineering*. . . . And many other Alumni have been involved in space projects in ways truly too numerous to be mentioned in any single issue of *The Review*.

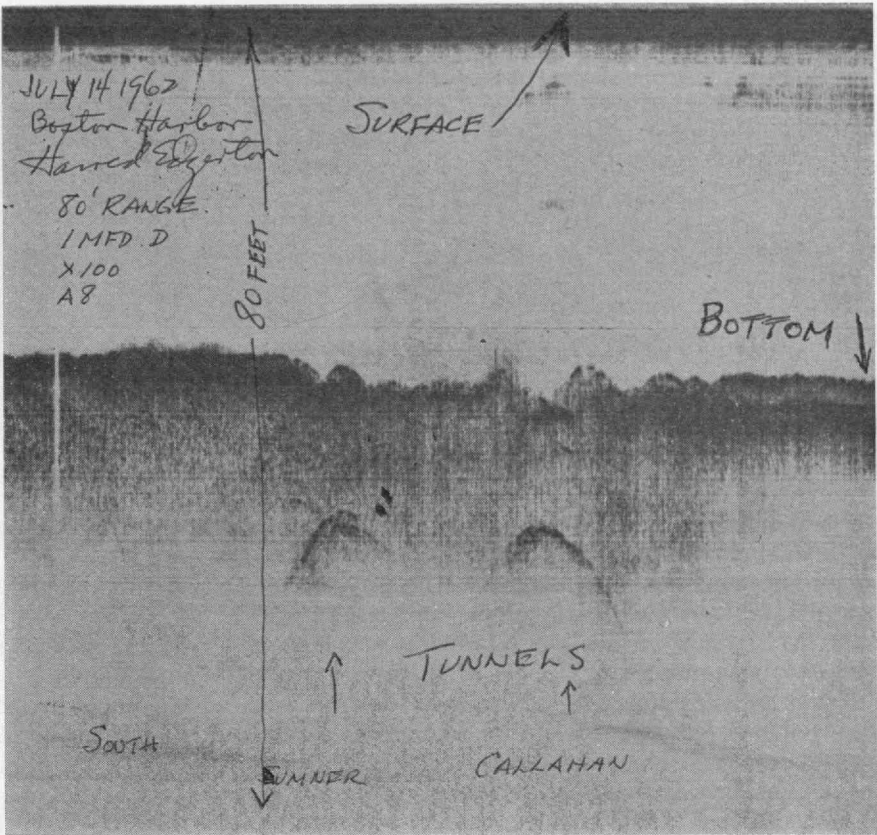


R. J. Keyes (left) and T. M. Quist, '58, with diode assembly.

Mud Pictures

PROFESSOR HAROLD E. EDGERTON, '27, whose trips above and below the earth's waters have often been newsworthy, spent considerable time this summer in a little boat on the surface of Boston Harbor, finding out about its bottom. The profile, at the right, of the harbor bottom was obtained with his new "mud penetrator" that emits 12-kilocycle pulses 30 times a second. As his notations on it indicate, it shows that the new Callahan Tunnel is slightly lower than the old Sumner Tunnel. This picture was obtained from an Alden Alfax recorder connected to the penetrator while the latter was hung off the bow of the boat. Profiles of the bottom of the Charles have been obtained similarly.

Professor Edgerton and his friends have also been investigating the use of such a penetrator to locate sunken ships and lost torpedoes, and to measure the mud on river revetments for the Army engineers responsible for maintaining them.



The Treasurer's Report

LAST YEAR'S changes in the Institute's financial affairs were summarized as follows in the report of Joseph J. Snyder, '44, Vice-president and Treasurer, to the Corporation this fall:

	1961-62	1960-61	Change
Educational and general activities	\$31,033,000	\$29,889,000	+\$1,144,000
Sponsored research:			
Departmental and interdepartmental research	24,621,000	20,314,000	+4,307,000
Major laboratories, special departmental and other research	66,472,000	56,996,000	+9,476,000
Total funds	134,875,000	122,657,000	+12,218,000
Plant assets	51,856,000	49,269,000	+2,587,000
Gifts and bequests	17,691,000	14,584,000	+3,107,000
Investments			
Market value	186,721,000	191,252,000	-\$4,531,000
Book value	132,719,000	121,706,000	+11,013,000

Operations in 1961-1962 and the previous year were compared in this table:

	1961-62	1960-61
Revenues and Funds		
Tuition and other income	\$9,246,000	\$9,054,000
Endowment investment income	1,887,000	1,832,000
Gifts, investment income, and other receipts	6,957,000	8,270,000
Allowances for indirect expenses	10,847,000	8,802,000
Dining and student housing	2,096,000	1,931,000
Total	\$31,033,000	\$29,889,000
Expenses		
Academic departments	\$11,876,000	\$12,299,000
General and administration	12,648,000	10,915,000
Plant operations	4,413,000	4,744,000
Dining and student housing	2,096,000	1,931,000
Total	\$31,033,000	\$29,889,000

The decrease in gifts, investment income, and other receipts and in academic expenses in 1961-1962 was

largely due to a reclassification of grants included for the first time in sponsored research.

Total operations of the Institute including all activities increased to \$110,317,000 in 1961-1962 from \$97,449,000 in 1960-1961. In 1956-1957 total operations were \$69,588,000, and in 1951-1952 they were \$32,518,000.

Funds sharing in the income from the general investments earned 6.44 per cent on the average book value compared to 6.29 per cent last year.

For the Study of Primates

A PRIMATE RESEARCH CENTER planned by representatives of M.I.T and eight other New England institutions is about to be built in Southboro and Marlboro, Mass. This \$2,500,000 center was made possible by a grant from the U. S. Public Health Service and will be administered for the co-operating institutions by the Harvard Medical School.

It will have facilities for the breeding and care of a variety of monkeys and other primates, and be used for research in bacteriology, physiology, nutrition, endocrinology, pathology, psychology, and social behavior. This and three other such centers in the United States are expected, according to Surgeon General Luther L. Terry, to "yield findings to help combat both physical and mental disorders in man."

Six buildings are planned on the 140-acre site chosen for the New England center. Professor Sasaki Hideo of the Harvard Graduate School of Design is supervising the development of the tract and the architects will be Hugh Stubbins and Associates. Dr. Bernard F. Trum of Harvard has been appointed director of the center.

Vice-president Carl F. Floe, '35, and Professor Hans-Lukas Teuber have represented M.I.T. in formulating the plans for this major addition to research facilities in New England.

The Owl and the Computer

TO A NEWCOMER from another planet the operations of some of our man-made contrivances might seem more baffling than those of a human brain. We marvel more at the latter, possibly in part because of our meager knowledge of how the brain works.

Lawrence Stark, a neurologist from Yale, and his colleagues in the M.I.T. Electronic Systems Laboratory, are striving now to define some of the design principles that nature evolved for the human brain. By using new techniques and unusual subjects for their experiments, they hope to do this with greater precision than was formerly possible.

In much of this work they have focused their attention on the control system responsible for the human eye's actions. Quite a lot is known about how signals are transmitted from a source such as an eye to the brain, but little is known about how those signals are used to control bodily functions. The servomechanism that serves the eye is a simple representative of others with which we are blessed, and is a comparatively easy one to study.

The subjects employed in this research have ranged from primitive crayfish to human victims of Parkinson's disease; and in one of the most interesting projects now under way that ancient symbol of knowledge, the owl, has been linked with the popular new symbol, the electronic computer.

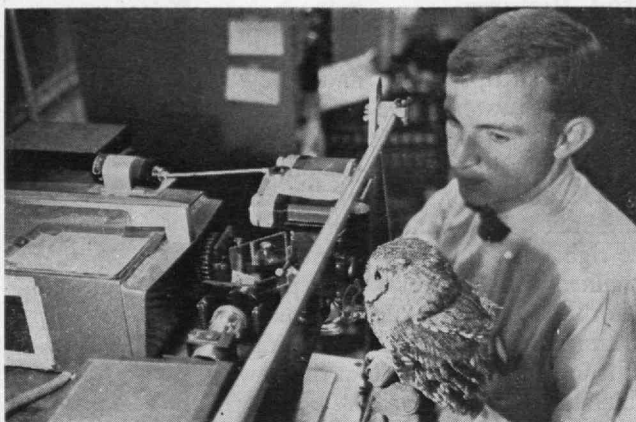
The owl's eye rather than a human eye was chosen for study because it is larger, because the owl cannot glance sidewise without turning its head, and because the bird is indifferent to things that would distract a man. The owl's role is simply to stare at a source of light—and a bird named Orpheus, recruited for the laboratory by the Audubon Society, does this better than even an M.I.T. freshman could.

The pupil of the owl's eye, like that of a man, contracts or dilates as the light reaching it varies in intensity. The light stimulates photosensitive cells in the retina. These cells send electrical impulses to the bird's brain. Those signals prompt the brain to send back other signals to the eyes' pupils.

Orpheus wears a pupillometer harness while on the job, and neither this nor the light at which the bird gazes appears to cause the owl any discomfort. The pupillometer connects the bird to a GE-225 electronic computer, which does all the work.

As the light changes, the degree to which the pupil of the eye of Orpheus contracts or dilates is measured, and the time required to complete the circuit between the retina and the bird's brain is determined. Readings are taken every one-thousandth of a second, digitalized, and fed directly to the computer for storage and analysis.

The computer, of course, does such work faster than a person could and from these and other measurements a mathematical model of the servomechanism involved is being developed. Dr. Stark came to M.I.T. two years ago because it is a leading center for such cybernetic research, and he is hopeful that his and other projects will contribute to a clearer understanding of the design principles embodied in the brain. This, in turn, could contribute to men's ability to deal with nerve and brain disorders such as Parkinson's disease.



From left to right: The instrument, Orpheus, and R. C. Payne.

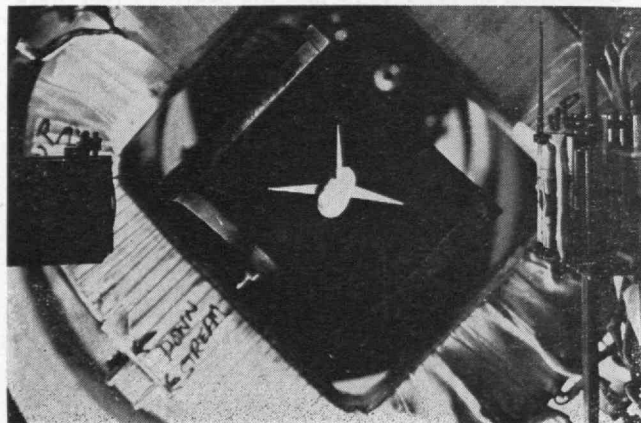
No Visible Means of Support

A MAGNETIC METHOD of supporting aircraft and rocket models in a wind tunnel was developed recently in the M.I.T. Aerophysics Laboratory. Rigid supports such as have been used heretofore are troublesome at supersonic wind speeds and the corresponding high altitude pressures, and the magnetic technique eliminates the need for them. Eugene E. Covert, '58, headed the team which worked out this new technique for the Aeronautical Research Laboratory of the Air Force Office of Aerospace Research.

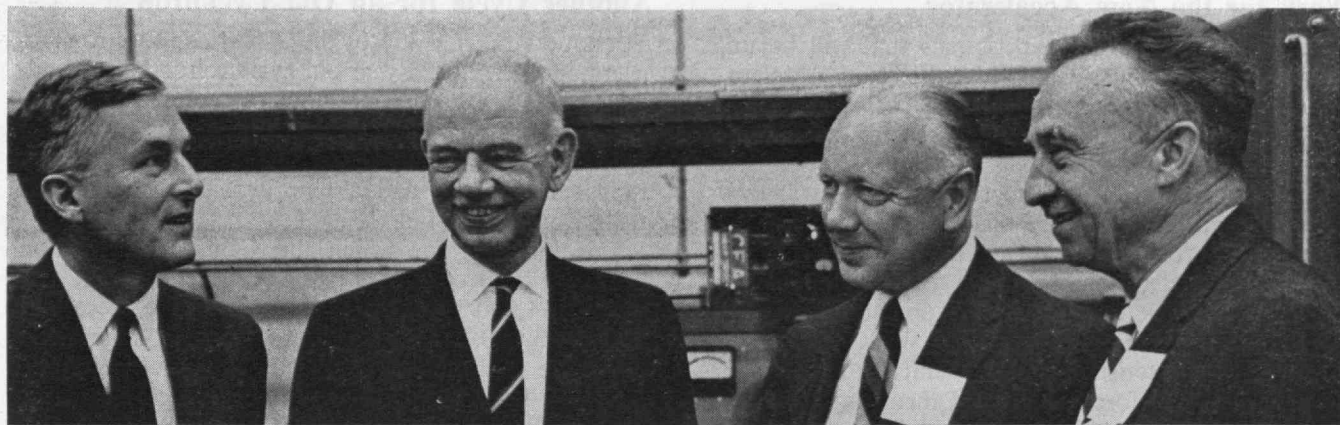
Models from four to six inches long, and weighing up to five ounces, have been used in a 4.8 Mach wind tunnel. These models have iron cores of high magnetic permeability. They have been suspended in the wind tunnel's throat by five strong electromagnets, two above, two at the side, and one upwind from the model. These magnets take the place of rigid supports.

Signals from optical systems control the strength of the field exerted by each magnet. When a model being tested begins to change its position, these signals bring about instantaneous compensations in field strength and equilibrium is maintained. To insert a model, an operator simply places it between the magnets by hand and lets go. The magnets are so strong that a stiff tug is needed to pull a model out.

This new technique already has been used to confirm the earlier theoretical finding that a supersonic vehicle whose body tapers to a point at the aft incurs less drag than a body with a blunt aft end.



An airplane model held in a wind tunnel by five magnets.



CEA dedicators included President Pusey, Commissioner Haworth, President Stratton, and Prof. Livingston, its Director.

The New Accelerator Is Dedicated

A BRONZE PLAQUE bearing the seals of both Harvard and M.I.T. was unveiled September 14, at the formal dedication of the Cambridge Electron Accelerator (CEA). The speaker of the day was Commissioner Leland J. Haworth of the U.S. Atomic Energy Commission, which provided the funds for this spectacular addition to the resources of both universities; and it was accepted for the Cambridge scientific community by Professor Norman Ramsey, who expressed the hope that this new tool's users will be "both wise and lucky enough to ask the right questions of nature" with it.

Presidents Nathan M. Pusey of Harvard and Julius A. Stratton, '23, of M.I.T. both spoke briefly and, like Commissioner Haworth, recalled the reasons for this new venture in co-operation between the federal government and the community's two leading private universities. This multi-million dollar laboratory, said President Pusey, symbolizes the situation in which the universities have found themselves as a consequence of the growth of science and governmental interest in research. This particular laboratory, President Stratton noted, was planned with great care and was named the "Cambridge Electron Accelerator" in recognition of the rise of an academic community which transcends without invading the privacy of the two institutions responsible for it.

Commissioner Haworth, after recalling his own years in the M.I.T. Radiation Laboratory and as a member of the Visiting Committee for the Harvard Department of Physics, called especial attention to the achievements

of M. Stanley Livingston, the CEA's first director and a Professor of Physics at both Harvard and M.I.T. The invention and development of great accelerators, he said, already has changed the history of the world. Now the size and cost of such tools for research in high-energy physics have made it imperative, he continued, that a better rapport be developed between government administrators and university scientists. (Harvard and M.I.T., he suggested jocularly, may have solved this problem temporarily by taking over the government.)

The CEA produces the fastest and most energetic electron beam in the world. Conceived in the early 1950's, it has been the subject of detailed planning since 1956. It attained its design energy of 6 billion electron volts for the first time on August 13, 1962. It consists of a great ring of 48 magnets utilizing the principle of alternating gradient magnetic focusing. Electrons from a linear accelerator are injected into orbit between the magnet poles and accelerated there by radio-frequency electric fields.

The dedicatory ceremony was held in the great experimental hall (pictured on page 33) alongside the underground accelerator, and the guests were surrounded by massive magnets and strange-looking devices being readied for placement in or alongside its powerful beam.

The occasion brought to Cambridge scores of America's leading physicists and accelerator engineers—and a wire from M.I.T.'s Professor Victor Weisskopf, who is now at CERN, expressing his pride in now being connected with billion-volt establishments on both sides of the Atlantic.



A guide's gesture (above) suggests the difficulty of answering a question posed by a guest at the accelerator's dedication.

Work for the New Accelerator

ONE of the first physics experiments that will be undertaken with the new Cambridge Electron Accelerator (CEA) is an electron-proton scattering investigation that may take four years and cost \$1.5 million. Still another major experiment starting this fall is a bubble chamber exposure program that also will take years and will require more than \$1 million worth of apparatus. In both experiments the scientists will be seeking to shed light on essentially the same questions: What are the basic units that make up subnuclear particles and how do they fit together? What are the natures and characteristics of these units? And what is the nature of the forces that hold them together?

In the scattering experiment, physicists will bombard liquid hydrogen targets with the CEA's electron beam and make careful observations of how the electrons are scattered after they interact with the protons which are the nuclei of the hydrogen atoms. Protons carry a positive charge of electricity and are one of the two major sub-units that make up the nuclei of atoms. Each proton seems to have a dense inner core surrounded by concentric clouds of still smaller particles called mesons. Electrons in the CEA beam will be able to penetrate through and into protons and be scattered away without markedly disturbing the protons themselves. It is this scattering pattern that physicists will study for clues to the make-up of the proton.

The bubble chamber program will probe the mystery of the strange tiny particles emitted when a proton is "exploded" by a bombarding particle. More than 30 of these smaller particles have so far been identified. They have a variety of properties and characteristics, but men's understanding of their roles in the structure of matter is, at best, now only vague and tangled. In this program, the accelerator beam will be directed at a target in the ring of magnets which will emit a secondary beam—this one consisting of photons (very high energy x-rays). The photons, in their turn, will be directed into a chamber containing liquid hydrogen. Photons interacting with the hydrogen nuclei will produce the strange particles. These particles last independently for only tiny fractions of a second. But the tracks they leave when they streak through the liquid hydrogen in the chamber during their short lives can be photographed through a glass window. The photos are then studied for clues about the particles themselves. This experiment will be begun with a 12-inch diameter bubble chamber. Later, it will be transferred to a 40-inch diameter chamber now under construction. This will make more tracks of strange particles available for study.

The electron-proton scattering investigation will be headed by Professors Norman F. Ramsey and Richard Wilson of Harvard, and the bubble chamber program will be directed by Professor J. Curry Street of Harvard and Professor Irwin A. Pless of M.I.T., aided by physicists from Brown University and Brandeis University.

Several other groups also are preparing experiments to be conducted soon with the new \$12,000,000 instrument (which was pictured and described in *The Review* last May); and unusual management, contract, and staff problems have arisen (some of which the CEA's Director describes in the article beginning on the next page).

Another Cycle for an Old Cyclotron

ALTHOUGH dwarfed now by the Cambridge Electron Accelerator, M.I.T.'s 22-year-old cyclotron is being readied for another decade or more of usefulness. Nearly everything at 51 Vassar Street, except the cyclotron itself and the concrete vault that houses it, was cleared away last summer, and a new two-story structure is rising around it this fall.

This building, for which the Canter Construction Company of Brookline, Mass., is the contractor, will provide 14,000 square feet of space where there was formerly 3,000. It will contain an enlarged target area, up-to-date beam focusing equipment, a modern radiochemistry laboratory, and expanded general research laboratories. The Atomic Energy Commission has provided \$350,000 and M.I.T. the rest of the \$500,000



Constructing the new home for M.I.T.'s historic cyclotron.

needed for such modernization, and the new facility will be occupied early next year.

This cyclotron was one of the most powerful and advanced atom smashers in the world when completed in 1940. It provided the radioactive iodine that Professor Robley D. Evans used while developing a method of diagnosing and treating thyroid disorders, and also figured in the development of a method of preserving whole blood that is now used throughout the country. It can produce a stream of protons with energies up to 7.5 mev, a beam of deuterons with energies up to 15 mev, or a 30 mev beam of alpha particles. Other accelerators now produce much more powerful beams, but important work still remains to be done with what now are regarded as low-energy beams, and this cyclotron will go on providing them for the M.I.T. Radioactivity Center and Laboratory for Nuclear Science.

A Unique Laboratory's Problems

The Cambridge Electron Accelerator is a new venture in co-operation between a government agency and two universities to advance science

BY M. STANLEY LIVINGSTON

Professor of Physics at M.I.T. and Director of the CEA

THE Cambridge Electron Accelerator (CEA), constructed and supported with U.S. Atomic Energy Commission Funds, is a unique facility in many ways and presents problems of considerable significance to both M.I.T. and Harvard. It is one of the most advanced and valuable facilities in the country for research in high-energy physics and it is attracting a large group of research scientists. Although it is a basic research laboratory, it requires an extensive engineering staff to maintain effective operations. The work performed is not classified, but the management is subject to government fiscal and safety regulations and property control. It is the first such major enterprise for which M.I.T. and Harvard share responsibility.

The general terms of co-operation were set forth at an early stage in its development in a "memorandum of agreement" exchanged between the Presidents of M.I.T. and Harvard. Each school is represented by two administrative officers and three senior scientists on the CEA's Executive Committee charged with over-all management policy. This committee approves contractual arrangements, and a Scientific Subcommittee consisting of its six scientific members is responsible for the research program. The Director is appointed by the Harvard Corporation on the Executive Committee's recommendation and is to be a scientist holding a tenure appointment at one of the two schools.

The site, 42 Oxford Street at Harvard, was the unanimous choice of the scientists of both schools. An alternate site near M.I.T. was considered less favorable for magnet foundations and underground tunnels, and all agreed on the importance of having this laboratory adjacent to other academic facilities and readily available to faculties and students.

The location determined other administrative arrangements. Harvard University is the prime contractor with the AEC and provides basic services through its fiscal, purchasing, personnel, and other divisions. All CEA personnel are Harvard employees with the associated benefits, and Harvard gives term appointments, usually as research fellows, to the professional staff.

The Scientific Subcommittee meets with the Director monthly to advise him on management decisions, formulate plans, and evaluate research proposals. It analyzes requests for support in terms of the quality of the proposals, the CEA effort needed, and the possibility of overlapping previously approved work. It also devises procedures for scheduling programs and assigning apparatus and laboratory floor space.

The CEA is expected to provide essentially equal support to M.I.T. and Harvard scientists and to give equivalent priority to research of scientists from other institutions when these are approved by the Scientific Subcommittee. Senior scientists in the university research groups are presumed to be responsible for the quality of their groups' programs. Proposals are presented at evening seminars held monthly, prior to their submission to the subcommittee, and thus are subject to intensive scrutiny by the entire Cambridge community of scientists.

Contract Problems

The CEA's objective is to add to knowledge about nature and the basic philosophy applied to its contracts is that of a university research laboratory. To provide the highest quality of research output, the universities must be free to apply traditional policies and methods which have proven successful over many generations. An equally important output for the universities is the training of advanced students in the methods and philosophy of research, and it is essential that their faculties and students find an atmosphere of scholarship and academic freedom in the CEA laboratory.

Contract terms must enable the administration to provide this atmosphere and bureaucratic controls must be kept to a minimum consistent with the safe and proper use of government funds. Contract negotiations with a large, complex government agency are inherently slow and typically require months of effort, but progress is being made in finding mutually agreeable and workable terms. The New York Operations Office of the AEC carries on these negotiations, which involve many of its divisions, and contracts must ultimately be approved in Washington by corresponding AEC offices and its Research Division. Harvard approvals also are complex and multi-layered.

Both construction and operations contracts have been required. Experience quickly showed that the standardized procedures under the "construction" type used for public works were not suitable for the very different problems involved in the design and development of a new type of scientific instrument such as the accelerator. Much of the equipment needed has not been commercially available and has been designed and built by the laboratory staff. Both the AEC and the universities now recognize that such work can be handled more efficiently under a "research and development" contract, and a separate contract used for the actual

construction of buildings and procurement of commercially available equipment.

An operations contract to support laboratory and research operations overlapped the construction contract by several years in order that experiments could be started at the earliest possible date. An increasing amount of the CEA's staff effort has been applied to such activities, and this arrangement made possible a smooth transition from the construction phase to the operations phase.

Both the Harvard Physics Department and the M.I.T. Laboratory for Nuclear Science also have research contracts with the AEC separate from the CEA contract. These support the experimental development of research instruments within the university laboratories which may be assembled and used at the CEA laboratory.

Projections made by AEC's Research Division in Washington with the advice of the President's Scientific Advisory Committee and supervised by the AEC's budget staff establish the general level of support to be expected in the annual budgets for the CEA and other accelerator laboratories. Since budgets must be prepared well in advance, it is difficult to provide for new experiments to keep up with changing technology. Such needs, however, usually can be met by modifying earlier plans and transferring funds with the approval of government contract officials. Congressional authorizations frequently are delayed past the start of a fiscal year and uncertainty regarding annual budget allocations is one of the most severe difficulties experienced in planning the CEA's operations, but this problem also plagues other university contractors with the government.

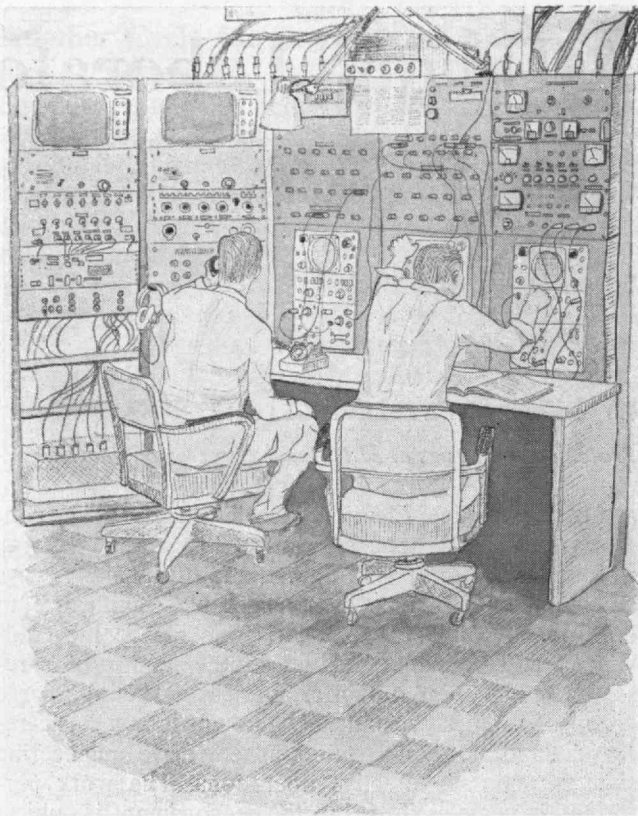
Contract terms recognize the unclassified status of the accelerator laboratory and no security restrictions are required. By statute all patent rights in inventions arising as a result of laboratory development efforts must be assigned to the AEC. By making the sponsoring universities solely responsible both for planning the research program and selection of the CEA's staff, the government has demonstrated its confidence in them.

Staff Problems

The CEA is essentially a service laboratory for support of basic research in high-energy physics. To maintain an instrument as complex as the accelerator and design the special apparatus needed for its efficient use, the CEA staff must have talents and training essentially equal to those of university scientists. Most of those recruited to date have Ph.D.'s in physics and a deep interest in research as well as in instrument development.

These men present a serious problem to the universities. Their term appointments give them virtually no prospects for tenure. They do not hold the title of "professor" to which many of them aspire, and opportunities for such appointments are rare. Their salaries, although equivalent to those of academic personnel in the same age and experience bracket, are well below those paid in industry.

CEA staff appointments, nevertheless, carry significant advantages: the atmosphere and surroundings of the university community bring intellectual and professional stimulation to the staff. The challenge of research



The control room of the big new electron accelerator. . .

with the world's highest energy electrons is attractive to many. So, too, is the opportunity to work with outstanding university scientists.

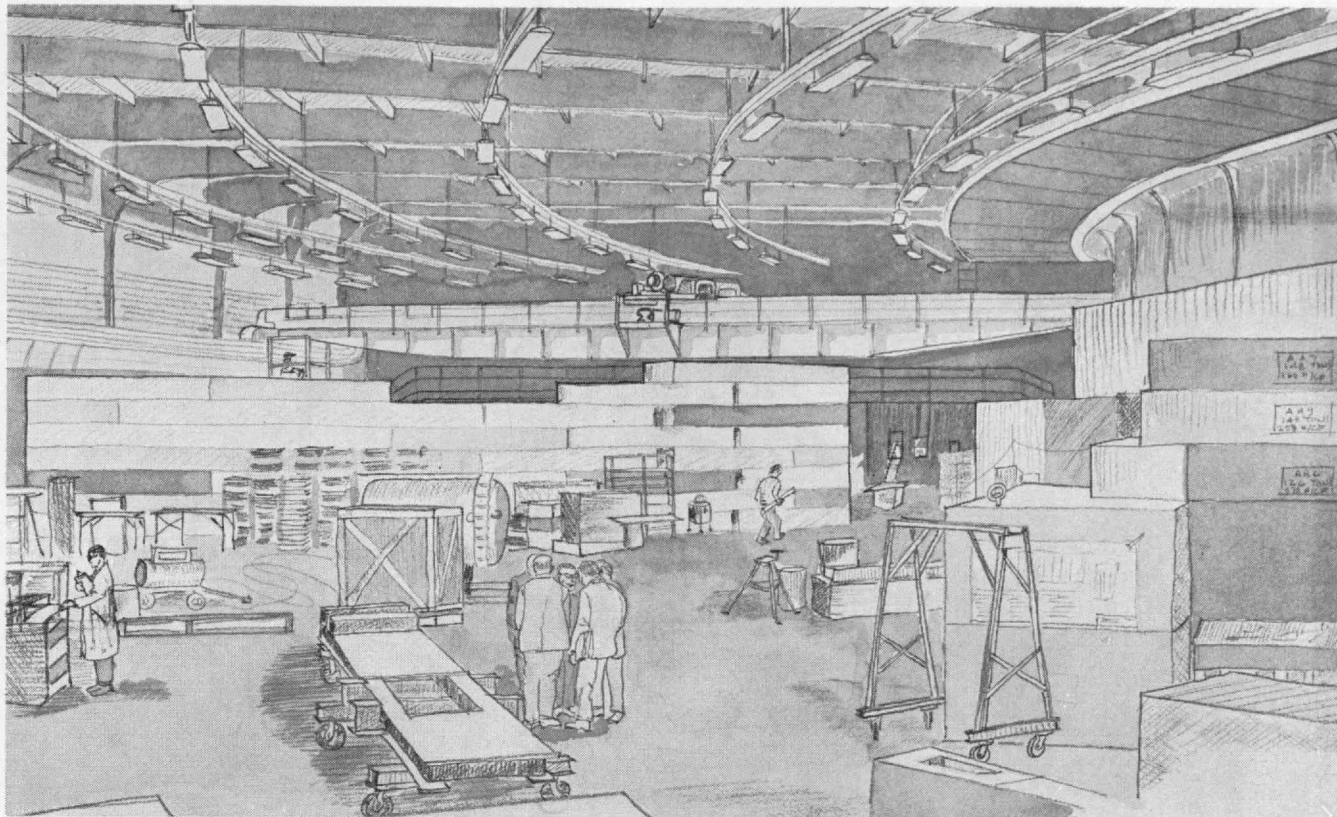
Appointments to the CEA scientific staff are for three years, after which recipients generally are expected to move on to other positions. The number of these post-doctoral research fellows on the CEA staff is expected to vary between 15 and 20. When opportunities arise they may collaborate with university scientists in research and engage in teaching at M.I.T. or Harvard. The laboratory would benefit by retaining some of its experienced people for more than three years, and the universities should provide some form of tenure position with proper prestige for those who become recognized leaders in the accelerator field.

The necessary staff engineers are employed on a full-time continuing basis and those holding advanced degrees usually are offered Harvard Corporation appointments. A considerable fraction are young engineers trained in the CEA laboratory in the special skills required. The supporting technical staff includes machinists, electricians, draftsmen, designers, secretaries and others, and the roster of CEA employees in all categories now totals 130.

Research Operations

Scientists and technicians must work together in teams in this field of science. The effort required to plan, assemble, and operate a major experiment is too great to be supervised by a single scientist. The work must be shared among several scientists, and a CEA staff member is assigned to each such group to expedite the work and co-ordinate it with other efforts.

Fears have been expressed that the technique of using teams of scientists on large programs may hinder



... and the experimental hall in which Harvard and M.I.T. men will work (as sketched for *The Review* by Seth Curlin).

individual initiative and responsibility. It does make research less intimate and personal. Team research is essential for progress in many fields, however, and especially in high-energy physics which requires the use of large and costly apparatus. A university is the proper place for such basic research despite its magnitude, and if a proper effort is made to maintain traditional standards, team research is not necessarily a threat to the quality of results.

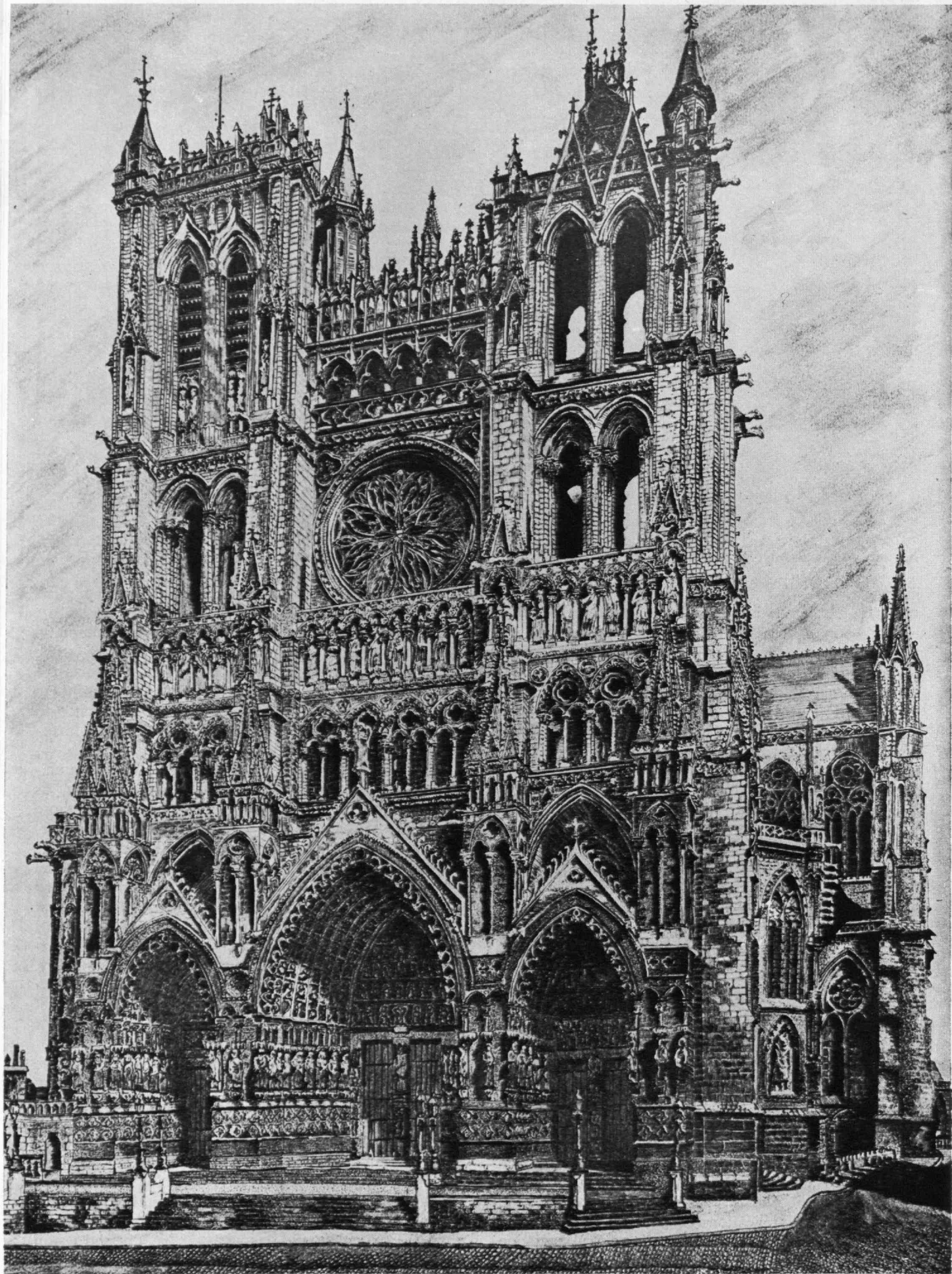
Twelve scientific proposals have been studied and approved thus far by the CEA Scientific Subcommittee, involving more than 50 scientists from M.I.T., Harvard, the CEA staff, and several other nearby universities. Experiments are being installed in several of the six or eight possible beam runs. Two or more experiments can be operated simultaneously, when they do not each require the full-beam intensity. Electronic control of the local magnetic fields used to direct the beam against targets will allow the beam to be shared or alternated between several experiments. Night operations are planned to provide the long, steady runs essential for most experiments.

Radiation intensities outside the laboratory are controlled by the heavy installed shielding and the location of the accelerator in an underground tunnel. Efforts have been made to absorb and baffle the 60-cycle hum (similar to that from a transformer) when the magnet is in operation, so it is hardly noticeable beyond the project boundaries. Thorough electrical shielding is designed into the high-power radiofrequency system so no electrical radiation can disturb television reception in the neighborhood. The CEA has a license from the Federal Communications Commission to operate at the assigned frequencies, and stray electrical radiation levels are checked by FCC inspectors.

Close co-operation is essential between the CEA scientific staff and its university colleagues. The CEA staff must become a part of the university community, sharing the same responsibilities and the same goals. To accomplish this, the universities must recognize the important services of the CEA people, and accord them their full share of scientific credit. The experience to date justifies our expectations that the present favorable relations will continue.

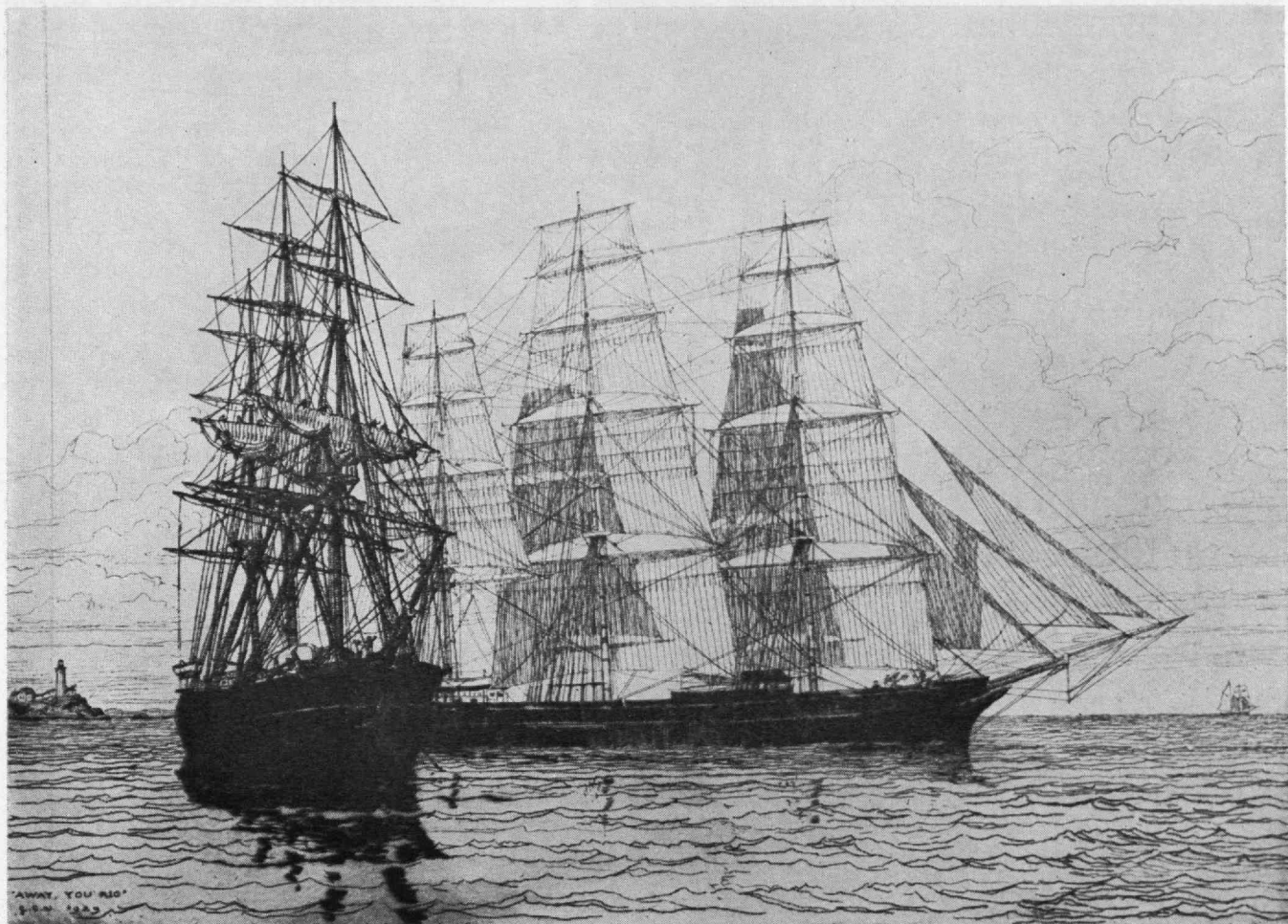
The management officials of the CEA and of the university must insulate the scientists and students, as much as possible, from the inhibiting effects of those necessary restrictions and procedures which are inherent in the use of government funds. Obvious symbols of bureaucracy such as uniformed guards and personal identification labels must be avoided. Proper protection of government property can be accomplished without imposing undue restraints. Contractual arrangements must clearly recognize the unclassified nature of the exchange of information with the scientific community. The use of government supporting funds must not be allowed to impose unreasonable restrictions which might disturb the atmosphere of the academic laboratory or distort the quality of the research.

We have in the Cambridge accelerator an impressive scientific instrument, and an important national trust. The university must manage and operate this laboratory effectively, maintaining traditional standards of scholarship and providing the highest quality in the training and education of young scientists. Despite the problems of bigness, and the threats of undesirable bureaucratic control associated with use of government funds, it must be possible to assimilate this new, modern laboratory into the university and to make it a healthy and useful addition to the academic research facilities.



An Alumni Art Show

Both professional and nonprofessional work of former students is exhibited at the Institute



“Cathedral d’Amiens” (preceding page), by Sidney L. Kaye, ’30, and “Away, You Rio” (above), by George C. Wales, ’89.

A NEW FEATURE of Alumni Day at M.I.T. last spring was an Alumni Art Exhibit. To inaugurate what many hope will become an annual affair, prints, paintings, and drawings of distinguished artists were hung beside those of others less well known. The latter suffered little by comparison; in fact the quality throughout would have done credit to any gallery.

Many viewers were surprised to discover that such famed print-makers as the late John Taylor Arms, ’11, IV, and Samuel Chamberlain, ’18, IV, were fellow Alumni. Others were amazed that nonprofessionals such as Sidney L. Kaye, ’30, VII, Suffolk Grocery executive, and Francis W. Hagerty, ’38, XIII, maker of Cohasset Colonial furniture, had achieved such a high degree of competence. It was an exciting preface to a phase of alumni accomplishment heretofore overlooked.

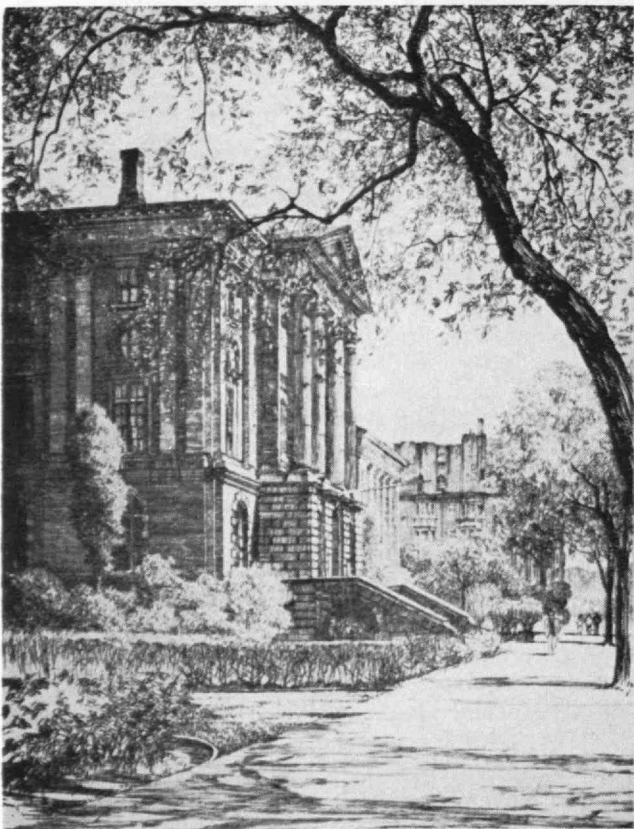
Last June’s exhibit was only a sampling of the work of Alumni, 14 in number, and only a sampling of the exhibit is given on these and the next two pages. Institute Alumni have worked in many media and in many styles, from tight, detailed etchings of architectural forms to colorful free-flowing patterns expressing nebulous ideas. It was a well-balanced show that has only scratched the surface of alumni talent.

The drawing of the cathedral on the preceding page by Sidney L. Kaye, ’30, was one of four of his pictures that were included in the exhibit. The etching by George C. Wales, ’89, IV, was one of five examples of his work; another, “The W. I. Trade” appeared on The Review’s cover in November, 1927.

The work of John Taylor Arms, ’11, also has been featured in The Review before. Its December, 1927,



"Light and Shade," Taxco, by John Taylor Arms, '11.



"The Rogers Building," by Samuel Chamberlain, '18.



"Oakwood, No. 1," by Charles Woodbury, '86.

cover bore his etching "Cobwebs," and an aquatint entitled "A Hong Kong Canal Boat" was on its cover the following April. Although Mr. Arms was graduated from Course IV, he took up graphic arts as a profession and produced both pure line etchings and aquatints.

Samuel Chamberlain, '18, drew many pencil sketches of Institute buildings, and the dry point of the Rogers Building is one of the most familiar to Alumni. "A Side Street in Beauvais," which was on the cover of the February, 1928, issue of *The Review*, won honorable mention at the Paris Salon in 1925.

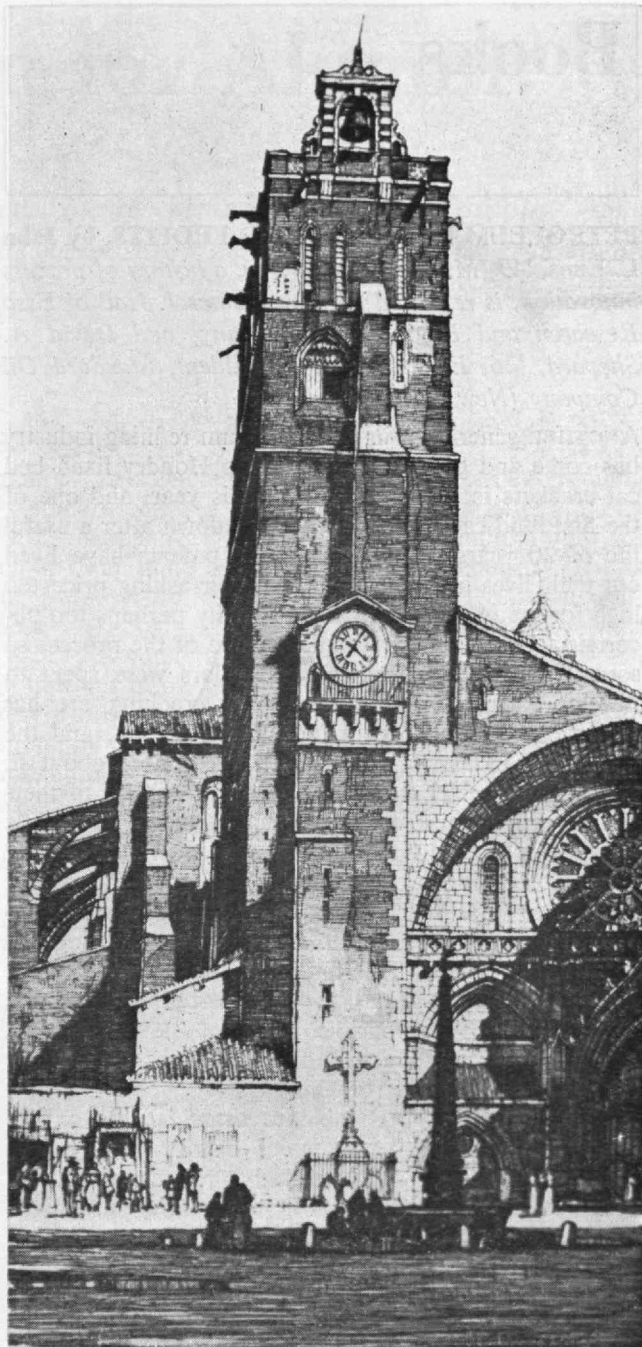
Charles H. Woodbury, '86, II, once explained in *The Review* his use of the etched line. It serves, he wrote, "to suggest motion and what is happening to the subject, carrying with it the indications of form and light and shade. A line of this nature is abstract and has meaning through general association and conscious suggestion. It is never literal and aims at sensation and the direction of the attention rather than description."

In addition to the picture by Cadwallader Washburn, '93, IV, below, the exhibit included his "French Fisherman," "Vecchio Patriota," and "Le Vieille Mentonnaise." The dry point by Louis C. Rosenberg, '13, IV, at the right, shows his ability to blend his architectural talent with a feeling for the pictorial. An etching entitled "Chatelet, Vitre," which was also once a *Review* cover (July, 1928) was awarded the Logan Prize of the Chicago Society of Etchers in 1925.

More examples of Alumni art work were hung in the foyer of Kresge Auditorium. These included works by Lawrence B. Anderson, '30, IV, Gardner Cox, '32, IV, Francis W. Hagerty, '38, XIII, Samuel E. Homsey, '26, IV, George O. Lloyd, Jr., '41, IV, Henry B. Kane, '24, IX-B, and C. Fayette Taylor.



"A Sudanese Chief," by Cadwallader Washburn, '93.



"St. Etienne, Toulouse," by Louis C. Rosenberg, '13.

M.I.T. "Voices" Are Honored

AT THE 1962 meeting of the American Alumni Council, M.I.T. received a special award for the excellence of its taped program, "M.I.T. 1961: Voices of Technology," which thousands of its Alumni heard on October 19, 1961. Philip H. Peters, '37, was narrator, and principal talks were given by James R. Killian, Jr., '26, Julius A. Stratton, '23, and John J. Wilson, '29.

Music at M.I.T.

CHAMBER MUSIC of Mozart, Schubert, and Brahms will be heard in this year's Humanities Series in Kresge Auditorium, at 3 P.M., Nov., 11, Dec., 9, Jan., 13, Feb., 10, and March 17. Single tickets are \$2.50; series tickets, \$9.

Books

PETROLEUM PROGRESS AND PROFITS, by John L. Enos, '49 (*M.I.T. Press*, \$9.50), a history of process innovation, is reviewed here by Homer J. Hall of *Esso Research and Engineering Company*, and David A. Shepard, '26, *Executive Vice-president, Standard Oil Company (New Jersey)*.

ANOTHER generation in the petroleum refining industry has come and gone. The last of the Houdry fixed bed cat crackers is being dismantled this year, and one of the first fluid cat crackers is coming down after a useful life of 20 years. Houdry's process patents have lived out their lives in relative peace—their asking price too high for many customers, their validity perhaps too uncertain to sue, but the technical value of the process so soundly proved that millions of dollars were spent to develop successful alternates. The cracking art has become a case history in industrial research, and the "giants of industry" are ready to reminisce about it.

The story really starts with the development of thermal cracking. There are some vivid contrasts and subtle similarities between the commercial growth from one thermal cracking process in 1913-15 to many during and after World War I, and the growth from one catalytic cracking process in 1933-37 to several during and after World War II. This fascinating story is the theme of Professor John L. Enos: the interplay of the men and companies responsible for the Burton, Dubbs, Tube-and-Tank, Houdry, Fluid, TCC, and Houdriflow processes for petroleum cracking.

The author has been able to draw heavily on the files of the major oil companies involved in most of these developments, and we find a refreshing willingness to reveal detailed reports and management self-criticisms. As a history of 50 years in petroleum research, this book relates stories and sidelights which will bring many a chuckle or frown to the host of men who have taken part, and it is the first public approach to a complete picture of many of the trends involved.

The use of the various company files as an information source brings its hazards, as well as its advantages.



Drawing by Klaus Grutzka, from *The Lamp*.

No one person can agree with everything the author says, because he cannot agree with himself. The text repeatedly contradicts the footnotes; the order of some events in Chapter 5 is reversed in Chapter 7, and patent disclosures considered at one place as hampering research are noted elsewhere as a strong stimulus to competitive developments. It is not the author's purpose to settle all the arguments—indeed, the present attempt to tell the whole story could easily create as many arguments as it settles. Many of the conclusions presented are dated as of 1955-56, when the differences between Houdry and Socony on TCC cracking were just being settled (out of court), and it is not surprising to find that these two companies are less self-critical than most of the others.

The real thesis of the book, as stated in the subtitle, is "a history of process innovation." The author distinguishes between invention and innovation—which he never completely defines—and documents this by showing how "the large oil companies have excelled in adopting and applying the ideas of others, that is, in innovating." The individual inventor who becomes a successful innovator, like Burton or Houdry, must also be a skilled businessman. Finding both types of genius in the same man is rare.

Real progress in new process developments often comes after adversity—an explosion, a demonstration faked by an employee, even a bankruptcy—where there is a man behind the work who refuses to let go of an idea that he knows is good. The first major petroleum research organization in America, started by Jersey Standard in 1919, resulted from a deliberate effort to discern the factors which had led to the success of Burton's cracking process, at a time when his employer (Indiana Standard) was giving full credit to the man and not to research as such. Professor Enos seems almost to regret the success of what he calls "institutionalized research" and he overlooks many of its rewards, such as the opportunity for the individual inventor to use adequate equipment and expensive methods of evaluation. Many readers may also disagree with his willingness at times to pass judgment on some of the companies concerned.

The economic conclusion that the customer's dollar purchased more performance value for gasoline in 1956 than in 1913 is familiar; benefits of the technology developed have been passed on primarily to the consumer. At the same time, in constantly improving cracking processes over the last 50 years, the author finds that the petroleum industry has shown a consistent increase in the productivity of process labor, raw material, energy consumed, and capital. This type of analysis of variables involved in the costs of technology is a novel and constructive approach. However, economic conclusions based on comparisons between modern cost accounting and 1913-15 data are a bit shaky, and some eyebrows might be raised at percentages calculated to tenths of a point on data whose accuracy is only plus or minus 50 per cent of the stated value. These recognized uncertainties are not enough to destroy the value of the conclusions as interesting possibilities.

Certainly Professor Enos has shown that he is a good narrator in American economics, with a fresh point of view, and his case history of business enterprise is an exciting tale.

A Fourth Function for Alumni?

Should M.I.T. men concern themselves with the Institute's goals as well as with its well-being after they have been graduated?

BY D. P. SEVERANCE, '38

Executive Vice-president, M.I.T. Alumni Association

WHAT should be the purpose of an alumni association? Generally, alumni have done what their universities and associations have asked them to do: cheering at games, contributing funds, and meeting to reminisce.

Many men and women belong to alumni clubs primarily because they believe it is expected of them, and give to their alumni funds for precisely the same reason. They belong to an alumni association as an end in itself.

Our colleges have taught alumni, I fear, to do homage without teaching them to believe in education.

They are selling alumni associations, clubs, funds, reunions, and home-comings (and even merchandise) without making it clear that all this has only one purpose: to foster higher education.

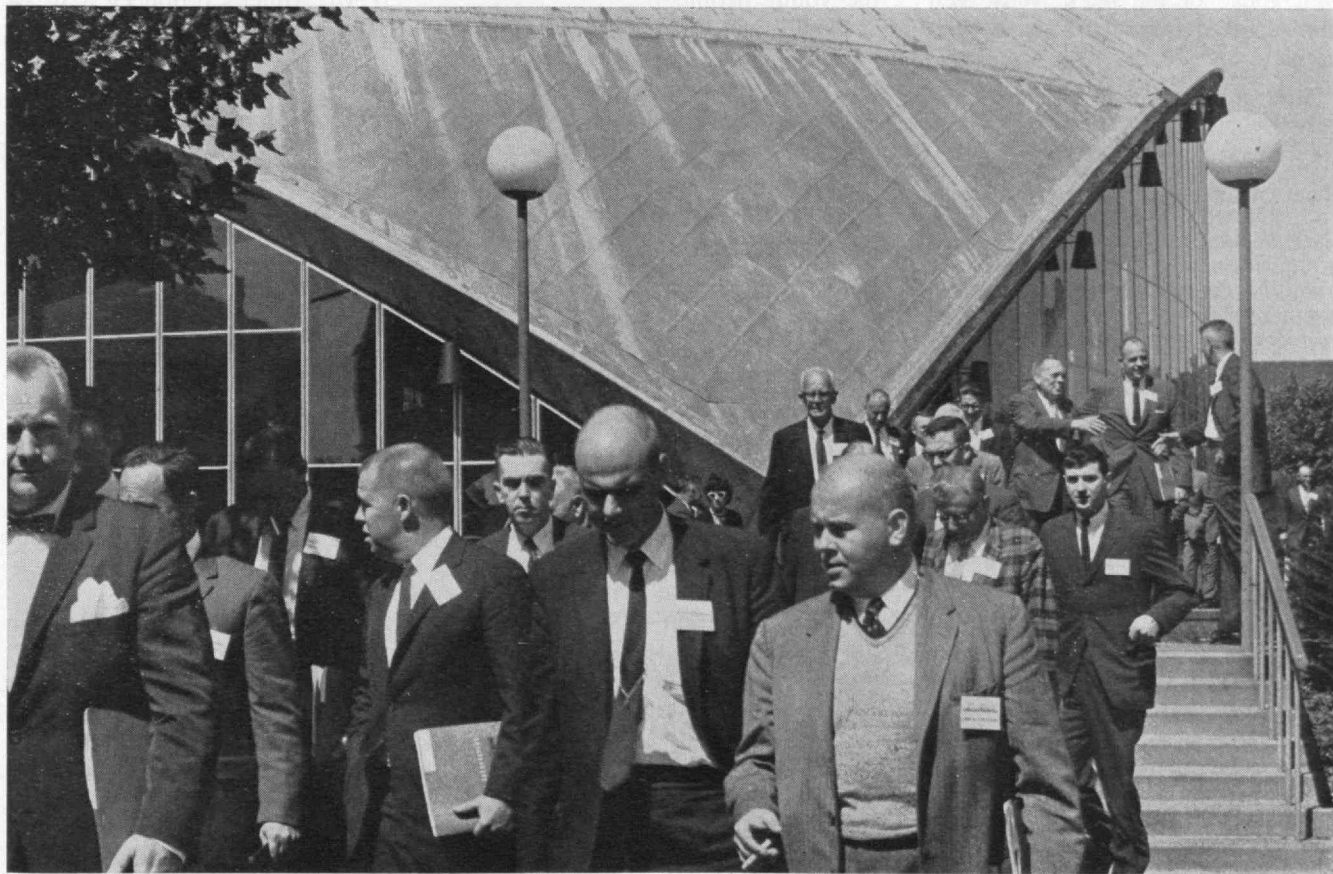
I doubt that the M.I.T. Alumni Association has fallen into this trap. Our stated object is to: "Further the well-being of the Institute by fostering the interest of the Alumni in the Institute and in each other." We keep our eyes on that target—even though we often fall short.

Our fund raising, most class activities, the Educational Council, and some club functions fit this pur-

pose. But, the concept of continuing alumni education—whether it be on campus or off campus—does not exactly fit. On the contrary, this is more a case of furthering the well-being of the *alumni*.

When Schooling Ends

In a commencement address at Oberlin last June, J. Irwin Miller, President of the National Council of Churches of Christ, did not express the customary concern for the confusion and difficulties ahead. Rather, his concern was that he knew he could predict with certainty what would happen to most of that grad-



The Fourth Alumni Officers' Conference last September 7 and 8 brought nearly 350 men back to M.I.T. Mr. Sever-

ance's article beginning on this page was adapted from his remarks during their meetings in the Kresge Auditorium.



Provost Townes (left) and Professors Trilling and Mann addressed an M.I.T. Alumni Officers' Conference session that was chaired by Edward O. Vetter, '42.

uating class. Twenty years hence most of its members would be married with work patterns established for life. By normal standards the majority would be doing well indeed. With their good minds and their Oberlin degrees they would be well ahead of the pack. Why then this sense of tragedy? This is what he saw:

Most of the wives in this group will have their sights zeroed in on housekeeping, feeding, clothing, watching after children. They will feel slightly rebellious about a daily routine which they will make no serious effort to break *The husband, in turn, will have grooved himself a life which finds in his job a sanctuary from the annoyances and problems of family responsibility; the comfortable appearance of busyness through the guaranteed flow of mail and memoranda at his desk. . . . His conversation will seldom stray beyond the limits of office and professional gripes, standard political opinions and sports statistics Neither will consider himself or herself genuinely unhappy. But each will know moments of recurring dissatisfaction and will be baffled as to what if anything might be done about it. Some of you here will be able to break out of this success slump, either through personal achievement or personal disaster. But for most of you twenty years hence this may be your lot. And this I say to you is tragedy of most genuine quality.*

He went on to lament that most members of the class would run their course with throttle only half open and be unaware of the hundreds of capacities that lie inside them.

At college their capacity to think was stretched and developed

through wrestling with science, mathematics, philosophy, etc. But for too many this forced cultivation of the mind ceases when they leave college. By the time their own children are in college they neither understand nor care what stimulates the young people.

Could any of us have listened to that address, that prophecy, without wishing we could do something to help reverse the pattern? Let us step back and review the purpose of universities, of M.I.T., and of its Alumni Association.

Frederick Rudolph's new book, *The American College and University*, mentions that one way to understand the American university is to contrast it with its English and German forerunners. The English university revolved around culture, the production of gentleman aristocrats. The German university found its life more in erudition and the production of scholars. The American university he saw as a place where the emphasis was on service, on the preparation of young people for active lives of service. Certainly this is the tradition we understand.

President Stratton, in his report two years ago, described the three purposes to which M.I.T. is dedicated: first, it undertakes to broaden and strengthen the general culture of the individual so *he may take his proper place among educated men and women in every walk of life*; second, it imparts the foundations

and specialized training of his profession; and, finally, it is committed to the advancement of learning as well as to the preservation and interpretation of the knowledge of the past.

John W. Gardner, President of the Carnegie Foundation, in his book *Excellence* likens religion and education in that many confine their religion to Sunday and forget it the rest of the week. Too many relegate the idea of individual fulfillment through education into one compartment of our national life, and neglect it elsewhere. It is something that happens in schools and colleges to young people between the ages of six and 21. However, Gardner writes:

[Colleges] cannot content themselves with the time-honored process of stuffing students like sausages. . . . It is the sacred obligation of the schools and colleges to instill in their students the attitudes toward growth and learning and creativity which will in turn shape the society

Every institution must, of course, have its own purposes and preoccupations, but over and above everything else that it does, it should be prepared to answer this question posed by society: "What is the institution doing to foster the development of the individuals within it?"

If Mr. Miller's prophecy is to be disproved for M.I.T. graduates, and if our M.I.T. is to rise to John Gardner's challenge, maybe we should look upon the purpose of our Alumni Association as being "to further [the *goals* in addition to] the well-being of the Institute. . . ."

Individual Fulfillment

Somebody once defined a good teacher as "a person who winds up a student so that he will never run down." We know that that is unlikely these days. But can M.I.T.'s Association somehow be instrumental in achieving the ultimate purpose of the Institute, namely, to help every young person in its care grow into the broadest, most vital person possible?

For the job we are doing on "Friends, Funds, and Freshmen," we can hold our heads very high among alumni associations the world over. Needless to say, we need more efficient, thoughtful effort than we have yet expended toward excellence in those three *F's*. But in addition, I hope we can add to our self-imposed assignments a fourth *F*, namely, Fulfillment—the idea of individual fulfillment.

M.I.T. Challenges

The World's Linguists

Their hosts both demonstrate remarkable new achievements with electronic devices and suggest a new basis for language theory

BY SAMUEL JAY KEYSER

EVERYBODY sometimes finds himself within earshot of someone speaking an incomprehensible stream of sounds. Once you realize that the babble of noises is actually a real language like your own—French perhaps or Mandarin—you may wonder what its speakers know that you do not. What exactly is it that enables them to use a language that is to your ears nothing but a meaningless jumble of noises?

This question brought a thousand linguists from 30 countries—including Russia, Japan, Vietnam, and Australia—to Cambridge in August for the first International Congress of Linguists ever held in the United States.

M.I.T., commonly associated with the best thinking in engineering and the physical sciences, is also now in the forefront of this group's ancient discipline, and was the linguists' host along with Harvard. Professor Morris Halle of the Institute's Department of Modern Lan-

guages chose the symbol for this congress, and Professor William N. Locke, Head of the Department of Modern Languages, was its secretary-general. Together they were responsible for transporting, housing, and entertaining the largest number of linguists ever assembled for such a congress.

Speech and Script

The symbol came from a book by a Seventeenth Century Dutch philosopher and mystic, the Baron Franciscus Mercurius van Helmont, who, like modern linguists, asked himself what it was that people knew when they spoke a language. In this diagram he was concerned with the way people make sounds, and called attention to the shape of the tongue and that of certain symbols. The symbols stand for the Hebrew letter "TAV." Van Helmont drew the shape of the tongue to match that of the first letter, and believed, in fact, that peoples' tongues actually



The symbol of the world congress.

took the shape of written versions of words when they spoke words.

Kenneth N. Stevens, '52, Associate Professor of Electrical Engineering, has studied speech in the M.I.T. Acoustic Phonetics Laboratory with far more care than van Helmont could have. He has considered the resonances characteristic of the human vocal tract and has a model of it that is capable of reproducing those resonances electronically. This remarkable device (called DAVO*) was among those demonstrated during the congress. It was displayed by Michael H. L. Hecker, '61, who was formerly with Professor Stevens' group. Its repertoire included the Alphabet Song, but not the "Tech is Hell" line which it spoke when it was introduced to Alumni of M.I.T. last year.

Another demonstration arranged for the linguists concerned the remarkable computer program prepared by Associate Professor Murray Eden of the Electrical Engineering Department in conjunction with Lester D. Earnest, '60, of Lincoln Laboratory, and Professor Halle. The program was designed to enable a computer to read and write ordinary handwriting. With it, a machine has written a letter to Jerome B. Wiesner, the President's science adviser, and received a re-

*See Technology Review, Jan., 1962, p. 13.

A genuine signature (above) and a reproduction of it (below) from a computer.

ply. Signatures can also be copied with the program. The example of a handwritten signature and the machine's forgery (on the preceding page) shows its great accuracy.

Victor H. Yngve, research associate in Electrical Engineering, prepared a discussion of the use of computers in the translation of languages and in the testing of various proposed grammars of particular languages. His presentation, which included a demonstration of mechanical translation from Arabic into English on a limited scale, was widely attended, indicating the growing world-wide interest in this effort to apply linguistic theory to an urgent problem.

Chomsky's Rules

The most important task of the country that is host to such a congress is to choose the papers to be delivered, and those selected suggest the interests of modern linguists. Topics ranged from the grammatical development of children's language to linguistic analysis of poetry, from dictionary making to machine translation, from problems of syntax in Navaho, Mohawk, and Classical Chinese to the sounds of South-Lappish, Rumanian, and Bahasa Indonesia.

Professor Jerzy Kurylowicz of the University of Krakow, who will be visiting professor of modern languages at M.I.T. during the coming year, discussed the problem of reconstructing past stages of a language of which there are no written records.

The most controversial paper presented was by Professor Noam A. Chomsky of M.I.T.'s Department of Modern Languages. Entitled "The Logical Basis of Linguistic Theory," it dealt with the fundamental question of what constitutes the precise nature of a language and in so doing addressed itself to assumptions underlying nearly all of the other papers read.

Chomsky observed that from a purely formal point of view the rules of any language are every bit as complicated, and perhaps more so than the rules necessary to prove theorems in higher mathematics. Yet a child of four, who may have the greatest difficulty in mastering simple addition, to say nothing of long division or finding square roots, has complete control over the rules of his native tongue. How does he

Next Month . . .

Technology Review will feature reviews and excerpts from new books certain to interest M.I.T. men and their families.

master so complicated a system as a natural language?

The answer that Chomsky and his colleague Morris Halle suggested is that children are endowed at birth with a built-in mechanism—what the famous French linguist Ferdinand de Saussure called the *faculté de langage*, and what the Bible calls the "gift of tongues." In computer terminology one might say human beings come pre-programmed to speak. What they speak depends upon what they hear, whether it be English or French or Javanese. But whatever linguistic environment a child may grow up in, this mechanism enables him to perceive easily the complicated rules of his native tongue.

A major task of the linguist, according to Chomsky, is to describe the nature of this mechanism in formal terms. The way to start is to ask what it can do. What skills must one attribute to a human being when one says he is able to speak a language? One is the ability to produce any of an infinite number of sentences. Another is the ability to produce and understand sentences never heard before.

Chomsky pointed out that many of the sentences we speak and hear every day are sentences we have never spoken or heard before. This is inexplicable within the framework of traditional linguistic theory. Rote principles, moreover, cannot account for our ability to understand sentences we could not have memorized previously. Chomsky emphasized that a description of our built-in mechanism, the *faculté de langage*, must account for this striking characteristic of human speech.

Chomsky also maintained that an important characteristic of this mechanism is that it is composed of rules. These are grammatical rules, but of a special kind. People never break them. Many people say, "Who do you want?" rather than "Whom do you want?" or "It's me" rather than "It's I," but no speaker of English would ever say, "Up I you pick eight at o'clock will." Accord-

ing to Chomsky, a person who says "I will pick you up at eight o'clock" is obeying certain extremely complicated rules, and one never hears its muddled version because these and similar rules are never broken. Another striking characteristic of these rules is that, however complicated they may be, people are completely unaware of them.

As a simple example of such rules Professor Halle drew attention to the way English speakers pronounce the sound of "p" in the beginning of words such as "pat" or "pet." Every speaker will let out a little puff of air at the end of the sound. This can easily be tested by holding this page in front of the mouth and saying "pat." The page will flutter. But suppose you put an "s" in front of the word and say instead "spat." No air comes out. The paper remains still. This is an example of the unconscious rule, "let out a puff of air at the end of the sound p when the sound p begins a word."

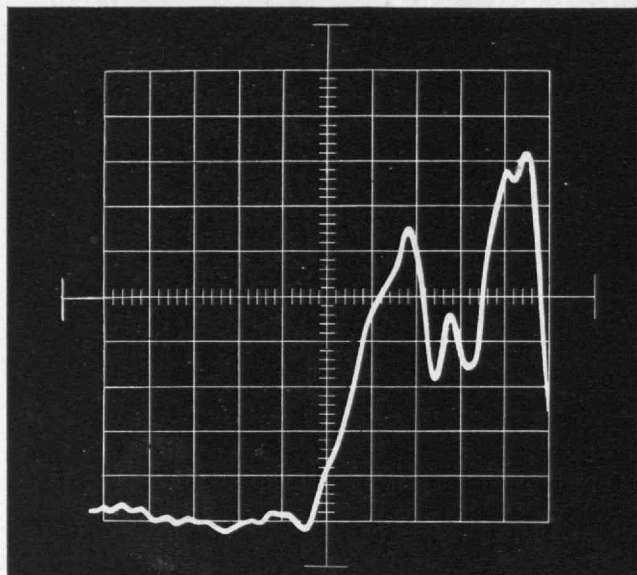
At the Crossroads

Chomsky views language as a set of rules that enables speakers to produce an infinite number of sentences and to understand an infinite number of new sentences; a set which enables people to know immediately whether any given sentence has obeyed those rules and, therefore, to know when a sentence has broken the rules; and a set of rules which, though of great complexity, is mastered by children and is indeed mastered unconsciously. This is a new concept of languages.

In his summation at the closing session, Institute Professor Roman Jakobson of M.I.T. alluded to the First International Congress of Linguists, convened at The Hague in 1928. At that time prevailing linguistic theory had gone about as far as it could go, and the need for more profound insight into the nature of language, felt so acutely then, has been growing ever since. Now an alternative has been provided. This Ninth International Congress of Linguists, in fact, brought the science of language to an historic crossroads.

This congress was supported financially by the American Council of Learned Societies, the National Science Foundation, Pan American World Airways, Inc., and IBM.

What is the best design?

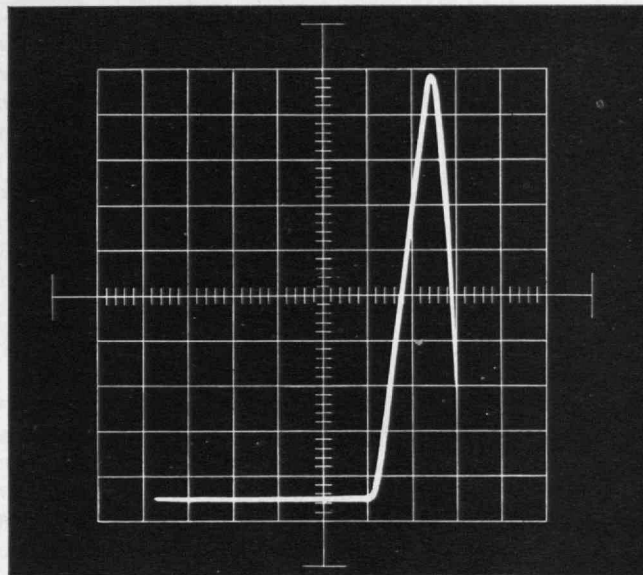


This is an example of the force-time relationship of impact printing as the striking head of an output printing device comes into contact with its platen.

As computers go faster, so must the machines which work with them. The tremendous speed at which these mechanisms function magnifies traditional problems of wear, elasticity, and timing. To meet rigorous new standards of performance, IBM engineers are applying the techniques of mechanical analysis to the development of high-speed mechanisms.

Through a combination of experimental measurements and mathematical analyses, IBM engineers attempt to determine exactly what is taking place at any given instant during the machine cycle. For example, our engineers recently were given the assignment of increasing the operating speed of the output printing element in a data processing system by as much as twenty-five percent without major redesign. To do so, they progressively varied mass, spring forces, and the elasticity of several components, and measured resulting changes in the system's physical characteristics. By translating these experimental results into mathematical terms, they were able to arrive at a solution to the problem which might have been impossible to obtain using only trial-and-error methods.

The exact description of the way in which many variables interact during the machine cycle requires advanced measurement and analysis techniques. For example, the impact curves shown above were produced by a mechanical structure with several



After modifications were made in the printing mechanism, the force-time relationship reflected a cleaner impact, producing a sharper impression from the printer.

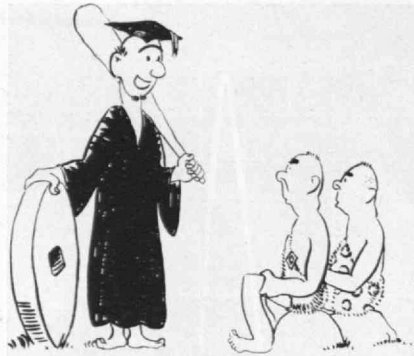
degrees of freedom—a system extremely complicated to calculate. IBM engineers chose to alter one structural member slightly to produce an overriding, dominant frequency. They could then analyze the structure's operation mathematically.

Mechanical analysis is helping IBM engineers to create mechanisms with fundamentally new designs. For instance, in a revolutionary new typewriter, the IBM Selectric,[™] they were able to design a mechanism to compensate automatically for wear and elasticity in the print-selection system. In an important new development in disk storage, they used a hydraulic actuator to position magnetic read-write heads which float on air bearings. And they have developed a high-speed printer, controlled by a computer's program, which prints by means of engraved type suspended on a chain which moves past the paper at high speed. Mechanisms with advanced designs like these are helping to make it possible to take full advantage of the immense capabilities of the computer.

If you have been searching for an opportunity to make important contributions in mechanical analysis, space, programming systems, or any of the other fields in which IBM scientists and engineers are finding answers to basic questions, please contact us. IBM is an Equal Opportunity Employer. Write to: Manager of Professional Employment, IBM Corp., Dept. 615Y, 590 Madison Avenue, N. Y. 22, N. Y.

A Short History Of Higher Education

BY RICHARD ARMOUR



LITTLE IS KNOWN about higher education during the Stone Age, which is perhaps just as well. Because of a weakness in the liberal arts, the B.A. was not offered, and there was only the B.S., or Bachelor of Stones. Laboratory facilities were meager, owing to a lack of government contracts and support from private industry, but the stars were readily available, on clear nights, for those interested in astronomy. Scholars, who went around without much on, looked at the stars with the naked eye.

There were no College Boards. This was fortunate, because without saw or plane, boards were rough. Nor were there any fraternities. The only clubs on the campus were those carried by the students or, in self-defense, by members of the faculty. Alumni organizations were in their infancy, where some of them have remained.

The Classical Period

In ancient Athens everyone knew Greek, and in ancient Rome everyone knew Latin, even small children—which those who have taken Elementary Greek or Elementary Latin will find hard to believe.

Under the Caesars, taxation became so burdensome that Romans in the upper brackets found they might as well give money to their

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RICHARD ARMOUR has written 22 books of humor and satire, including the recent *Golf Is a Four-Letter Word*, and more than 5,000 pieces of light verse and prose for magazines. He is also professor of English and dean of the faculty at Scripps College in Claremont, Calif. He says that this history was written "out of my head, which is what I am most of the time, anyhow." The drawings are by Henry B. Kane, '24.

Alma Mater instead of letting the State have it.

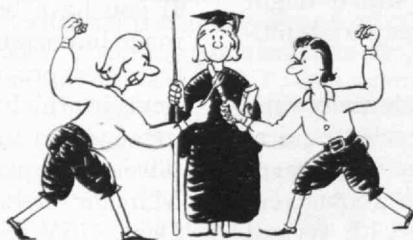
The word "donor" comes from the Latin *donare*, to give, and is not to be confused with *dunare*, to dun, though it frequently is.

The Middle Ages

In the period known as the Dark Ages, or nighthood, everyone was in the dark. Higher education survived only because of illuminated manuscripts, which were discovered during a routine burning of a library. It is interesting to reconstruct a typical classroom scene: a group of dedicated students clustered around a glowing piece of parchment, listening to a lecture in Advanced Monasticism, a 10-year course. If some found it hard to concentrate, it was because they were dreaming about quitting before exams and going off on a crusade.

Some left even sooner, before the end of the lecture, having spied a beautiful damsel being pursued by a dragon who had designs on her. Damsels, who were invariably in distress, wrought havoc on a young man's grade-point average.

Members of the faculty were better off than previously, because they



wore coats of armor. Fully accoutered, and with their visors down, they could summon up enough courage to go into the president's office and ask for a promotion even though they had not published a thing.

The Renaissance

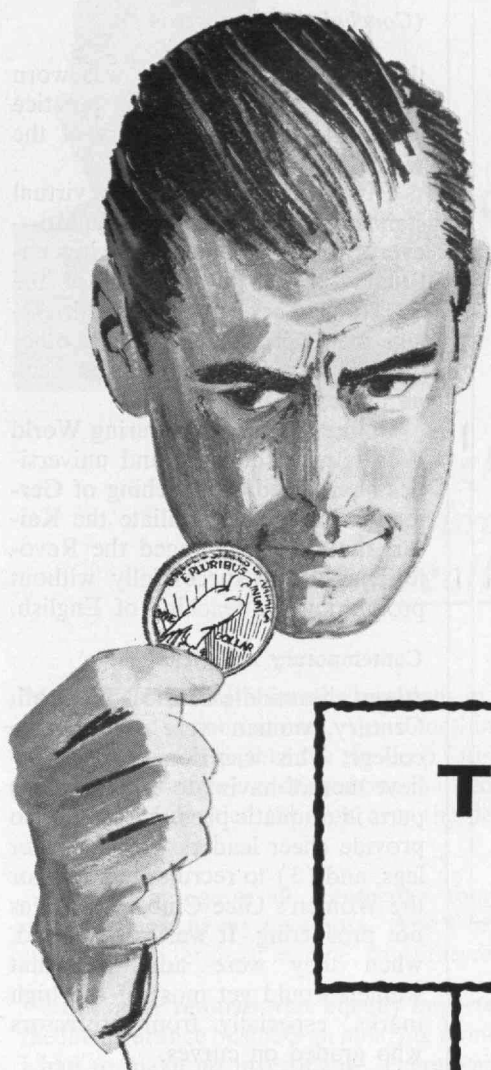
During the Renaissance, universities sprang up all over Europe. You could go to bed at night, with not a university around, and the next morning there would be two universities right down the street, each with a faculty, student body, campanile, and need for additional endowment.

The important thing about the Renaissance, which was a time of awakening (even in the classroom), was education of the Whole Man. Previously such vital parts as the elbows and ear lobes had been neglected. The graduate of a university was supposed, above all, to be a Gentleman. This meant that he should know such things as archery, falconry, and fencing (subjects now largely relegated to Physical Education and given only one-half credit per semester), as well as, in the senior year, how to use a knife and fork.

Colonial America

Harvard set the example for naming colleges after donors. William and Mary, though making a good try, failed to start a trend for using first names. It was more successful, however, in starting Phi Beta Kappa, a fraternity which permitted no rough stuff in its initiations. At first

(Concluded on page 46)



The other side of that coin

Last year, millions of investors were saying about their stocks: "I can't afford to sell because my capital gains taxes would be too great." We pointed out in our advertising that this was in many cases self-defeating: that in addition to being "locked in" by fear of taxes they were locking themselves *out* of sounder opportunities.

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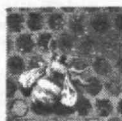
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Short History

(Concluded from page 44)

the Phi Beta Kappa key was worn on the key ring, but the practice went out with the discovery of the watch chain and vest.

Higher education came to a virtual standstill during the Revolution—every able-bodied male having enlisted for the duration. Since the ROTC was not yet established, college men were forced to have other qualifications for a commission, such as money.

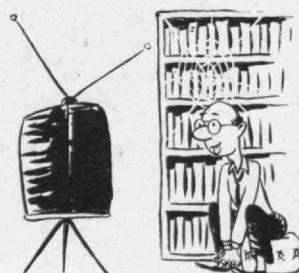
Unlike the situation during World War I, when colleges and universities abandoned the teaching of German in order to humiliate the Kaiser, the Colonists waged the Revolutionary War successfully without prohibiting the teaching of English.

Contemporary America

About the middle of the Nineteenth Century, women were admitted to college. This was done (1) to relieve men of having to take women's parts in dramatic productions, (2) to provide cheer leaders with shapelier legs, and (3) to recruit members for the Women's Glee Club, which was not prospering. It was not realized, when they were admitted, that women would get most of the high marks, especially from professors who graded on curves.

John Dewey introduced Progressive Education, whereby students quickly knew more than their teachers and told them so. Educational television gave college professors an excuse for owning a television set, which they had previously maintained would destroy the reading habit. This made it possible for them to watch Westerns and old movies without losing status.

Alumni magazines, have kept pace with such advancements. However, if pictorial content continues to increase, it will not be necessary for alumni to know how to read. This cannot come too soon.





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Stanley Newhouse, C.L.U.

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"What I really wanted was my own business."

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"I picked Massachusetts Mutual as the company that offered me the very best opportunity. It has an outstanding reputation and its dynamic growth is reflected in the fact it now has 2.6 billion dollars in assets. Solid, yet progressive—that sounded like the right combination.

"In my first twelve months of actual work, I met my own goal of a million dollars in sales . . . and *I've done better than that ever since.*

"And our opportunities are steadily growing. U. S. families are being formed at the fastest sustained rate in history—parents are far more life insurance-conscious than ever before. Business firms, too, are discovering the tremendous value in the variety of uses for business life insurance.

"It's interesting to me to note that some men seem to think that it is a cinch to get into the life insurance business. This is not true of Massachusetts Mutual! Far more applicants are rejected than are accepted. Only after some searching examinations are individuals accepted for training by Massachusetts Mutual General Agents.

"Our business provides two kind of security: First, you receive a steady income from earlier policies which you have sold, as well as from new sales. Second, Massachusetts Mutual provides all of the so-called 'fringe' benefits offered by progressive firms today, including a fine retirement plan. Yet I am on my own—and it's an even better feeling than I had expected it would be.

"I work with people I like and respect. When I deal with a company, I work with its top executives. When a large estate is arranged, I deal not only with its owner—a man of substance—but with his attorney, his accountant and a bank trust officer. These business contacts often develop into warm personal friendships, as well.

"My favorite sports are hunting, fishing, and skiing—and I am able to indulge in them when I wish. But, I actually find more pleasure and satisfaction from my work. I never thought I could make *that* statement before I entered this field."

* * *

Over a hundred Massachusetts Mutual men are now averaging \$30,000 income a year . . . which means that many make substantially more. In our entire sales force, men with 5 years or more experience are averaging close to \$14,000.

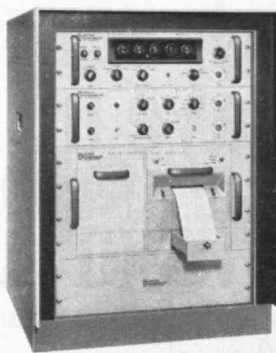
Are you being held back by office politics or slow advancement? Do you feel chained to a desk? Does business travel keep taking you away from your family? Or—are you just plain bored with your work?

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Would you like to switch to a new career—and be paid while you are trained?

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Alumni Leaders Meet at M.I.T.

FOR NEARLY 48 hours, on the weekend after Labor Day, M.I.T.'s Faculty, staff, and Alumni briefed each other on recent developments of mutual concern. Although New Englanders predominated, the Fourth Alumni Officers' Conference drew participants from both Florida and California.

William L. Taggart, Jr., '27, President of the Alumni Association, presided at the first general session, which dealt with the M.I.T. student and his environment. Professor Roland B. Greeley, Director of Admissions, described the Class of 1966 and the process by which it was chosen. Dean Thomas P. Pitre, Director of Student Aid, reviewed the great rise in financial assistance to students in the last decade. Kenneth R. Wadleigh, '43, Dean of Student Affairs, reported that a sense of purpose and high level of intelligence seem to be the only common denominators of M.I.T. men. Gordon S. Brown, '31, Dean of the School of Engineering, explained the new structure of engineering education. Philip A. Stoddard, '40, Vice-president, Operations and Personnel, then reviewed the extensive changes in the campus now being made.

Edward O. Vetter, '42, the chairman of the conference, moderated the next session, which followed a luncheon in the new Burton House dining room. It dealt with details of the alumni program and the speakers were Frederick G. Lehmann, '51, Secretary of the Alumni Association; D. Hugh Darden, Director of the Educational Council; John W. Sheetz, 3d, '42, Director of Development; Henry B. Kane, '24, Director of the Alumni Fund; Douglas F. G. Haven, '52, Regional Director of the Alumni Fund; Volta W. Torrey, of The Technology Review; and Donald P. Severance, '38, Executive Vice-president of the Alumni Association.

This general session was followed by seminars for club officers and class agents and those Alumni especially interested in student aid and the program of personal solicitation for the Alumni Fund.

President Julius A. Stratton, '23, and Mrs. Stratton received the conference delegates at their home following these meetings, and Dr. Stratton addressed them at the buffet dinner which followed in Walker Memorial. After recalling the austerity of M.I.T.'s past, he emphasized the for-

(Concluded on page 50)

NEW BOOKS

VARACTOR APPLICATIONS

by Paul Penfield and Robert Rafuse, M.I.T. This theoretical study examines how parasitic series resistance has thus far limited the quality of varactor performance at high frequencies and explains the fundamental limits of varactor applicability in circuit design.

1962

640 pages

\$15.00

WAVES IN ANISOTROPIC PLASMAS

by W.P. Allis, S.J. Buchsbaum, and A. Bers. A comprehensive study of free and guided wave propagation in plasmas within a magnetic field. Part I presents the general theory of plane waves and a unified treatment of the magnetoionic, acoustic, and magnetohydrodynamic regimes. Part II examines wave propagation in both longitudinally and transversely magnetized plasma waveguides. Energy and power theorems are given detailed treatment and related to the wave solutions.

1962

240 pages

\$5.00

A DECISION STRUCTURE FOR TEACHING MACHINES

by Richard D. Smallwood. Presents a new decision structure which selects the "best" teaching procedure for each student on the basis of his previous learning performance and the machine's previous teaching experience. The author describes intuitive, maximum-likelihood, and Bayesian methods for estimating the probability that a specific student will give a particular answer to a given test question.

1962

128 pages

\$4.00

SYNTHESIS OF OPTIMUM NONLINEAR CONTROL SYSTEMS

by Harry L. Van Trees. Applying the Volterra functional expansion to the synthesis of nonlinear feedback systems, the author specifies the optimum nonlinear filter for a given ensemble of random inputs or a particular fixed input and designs a compensator that will make the entire closed-loop control system simulate this filter.

1962

112 pages

\$4.00

MAGNETOHYDRODYNAMIC SHOCK WAVES

by J. Edward Anderson. Examines the steady-state structures and stability of shock waves having a large collision frequency compared with cyclotron frequency. The book presents a 3-dimensional graph of shock end states and an exact solution for the shock adiabatic curve in a convenient form.

1962

256 pages

\$5.00

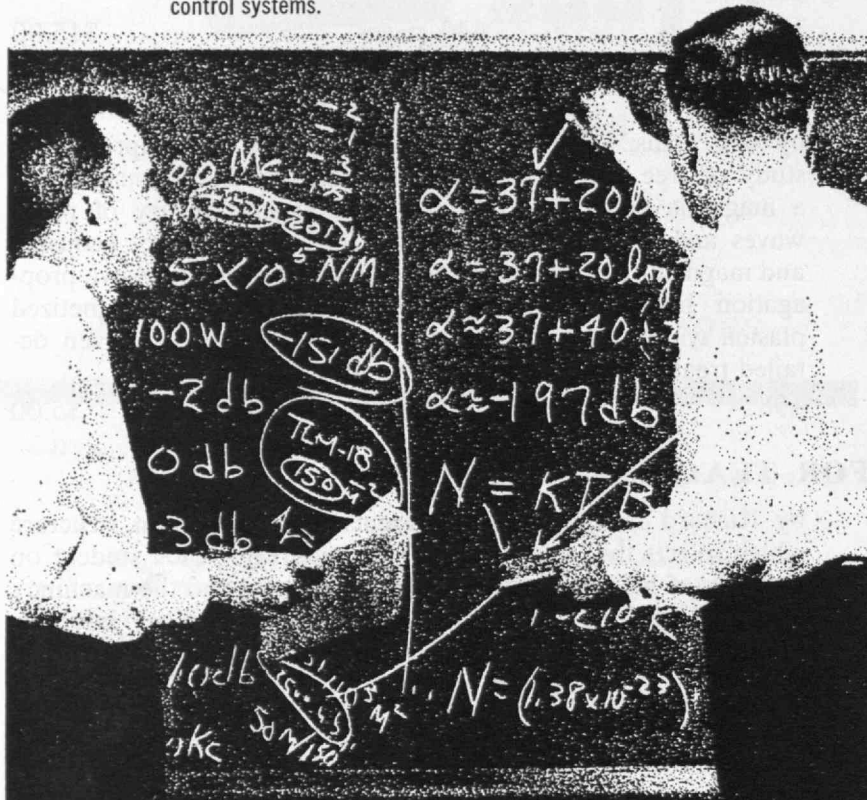
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Alumni Leaders Meet

(Concluded from page 48)

ward surging of new knowledge, the great demands now being made on both students and teachers, and the problems encountered in striving to set an institutional style which will result in recognition and rewards for the right things. Mr. Taggart presided on this occasion.

More seminars, for members of the Educational Council and class officers, met the next morning and these were followed by lecture demonstrations in the Compton Auditorium. Provost Charles H. Townes gave the first of these, and explained both how masers work and what can be accomplished now with them. Robert W. Mann, '50, Associate Professor of Mechanical Engineering, then explained the philosophy of the Engineering Projects Laboratory and displayed devices built and used in it. Leon Trilling, Professor of Aeronautics and Astronautics, concluded this part of the program with a review of current work in space technology.

The address of Vannevar Bush, '16, at a luncheon in the M.I.T. Faculty Club after these lecture demonstrations, is published (on pages 21 to 23) in *The Review* this month. It was the climactic event of the conference.

Moderators of seminars included Mr. Weedon; Samuel E. Lunden, '21, Past President of the M.I.T. Club of Southern California; William H. Bertolet, '48, Alumni Regional Scholarship Chairman for Philadelphia; Henry Avery, '41, Regional Chairman of the Educational Council for Pittsburgh; and Parke D. Appel, '22, President of the Class of 1922.

Mr. Vetter's committee responsible for this conference included: Jay Zeamer, Jr., '40, David P. Flood, '45, Frederick G. Lehmann, '51, Douglas F. G. Haven, '52, and James H. Eacker, '55.



M.I.T. publications were displayed at the Alumni Officers' Conference.



ART AND SCIENCE

ARTHUR SNYDER, a Vice President of the New England Merchants National Bank, applies the banker's art to aid the growth of many young companies in atomics, electronics, and other frontiers of science. Equipped with a solid engineering background of his own, plus an M. B. A. earned at Northeastern University at night, Arthur is particularly well qualified to serve these firms with financial aid and counsel.

"THE BASIC PROBLEM of these new companies throughout the country is rarely a lack of capital," Art Snyder remarks, "only a lack of experienced management." New England, however, is lucky to have many technical men who organize companies with a true awareness, first — of the critical need for effective management in four areas: research, sales, production, and administration; and second — of the availability of capital that such management is likely to insure.

"I LIKE TO GO where the excitement is," Art says. "There's a tremendous satisfaction in helping young, progressive companies to grow." If your firm could use the services of a company banker on your management team, why not ask Art Snyder to match his time with yours in exploring ways in which he and our Bank can be of help to you.



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PLASMA PHYSICS

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MATHEMATICS

Carry out advanced studies and original research in probability and statistics, classical applied math and discrete math with the aim of deriving general mathematical principles applicable to these disciplines. Other work includes coding systems, automatic control theory and investigations of methods of handling nonlinear differential equations.

SOLID STATE

Investigations oriented around basic studies of the physical properties of solid state materials with particular emphasis on optical studies, energy conversion and crystal imperfection studies, transport theory, magnetic materials and magnetic resonance studies and solid state device studies.

COMMUNICATIONS

Investigation of general analytical and experimental design techniques useful in optimizing the performance of information gathering and information transfer systems as well as the analysis of the effect of the propagation medium on such systems. Experience should include information theory, coding theory, signal detection and extraction and systems analysis.

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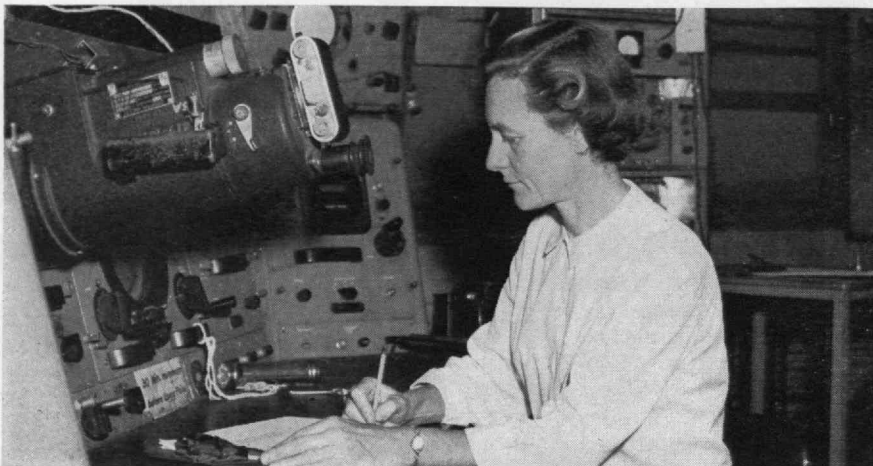
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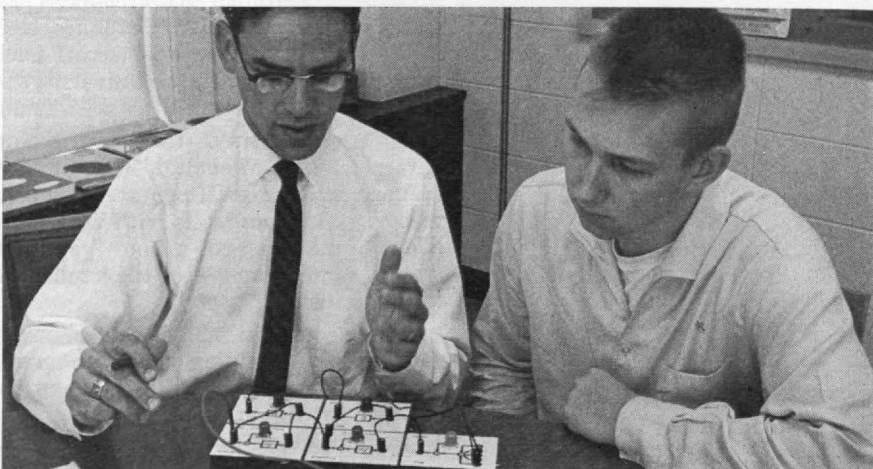
News Photos of M.I.T. Alumni



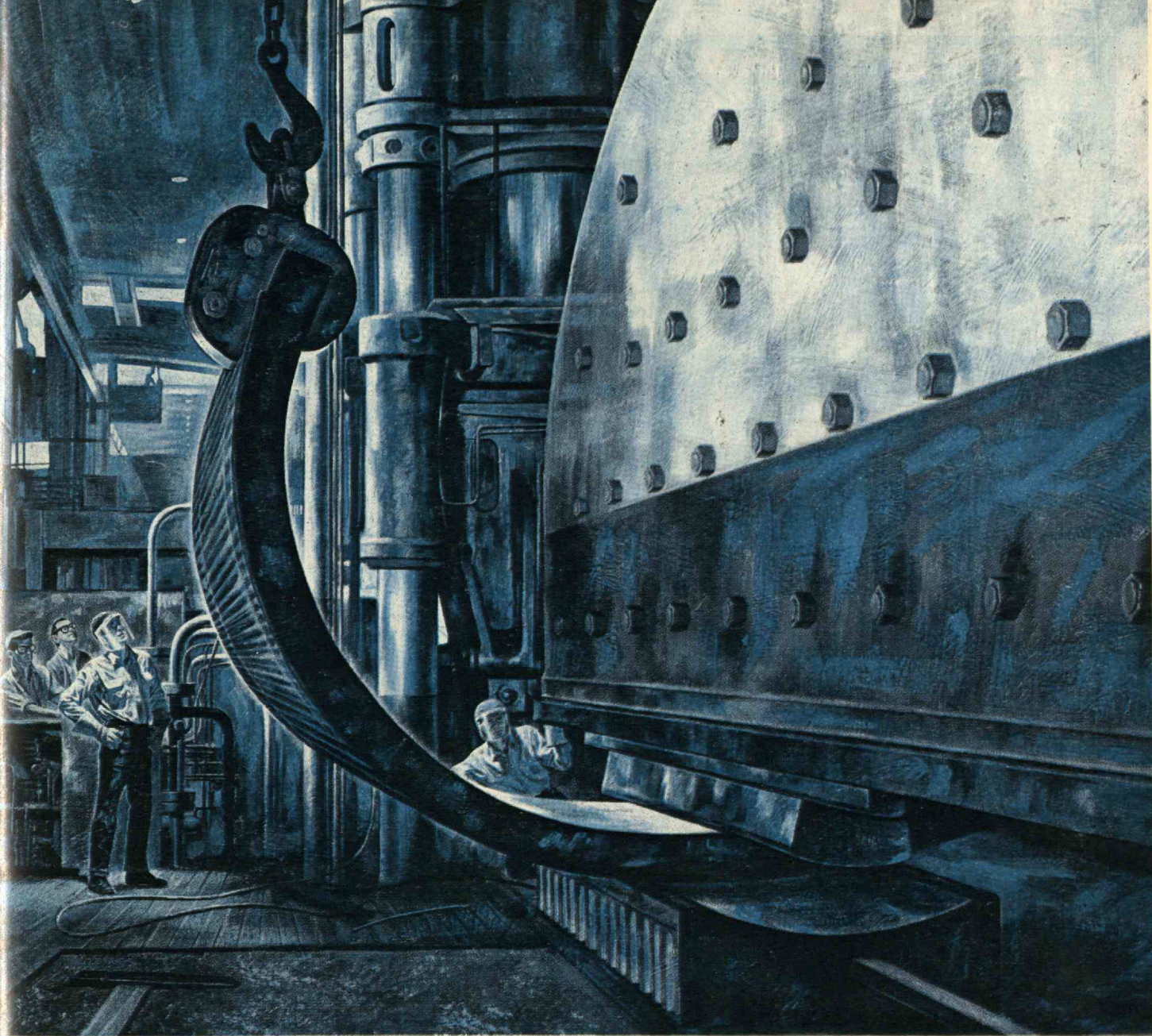
A WOMAN OF ACHIEVEMENT award from the Boston Business and Professional Women's Club went this fall to Pauline M. Austin, '42, who uses radar to study patterns of rainfall. She is a research associate in meteorology at M.I.T.



SPECIAL EQUIPMENT developed by General Motors was shown to Shih Ying Lee, '43, and Ernesto E. Blanco of the M.I.T. Faculty by Lloyd F. Christensen, '55 (at right) during a recent GM conference for engineering and science educators.



A PORTABLE ANALOG COMPUTER for solving differential equations is being introduced to Case Institute of Technology students by James B. Reswick '43 (left), who designed it with James J. Pastoriza, '48, and George A. Philbrick, '46.



Artist's rendition of one of C-E's forming presses bending a thick steel plate.

Monster with a tender touch

Bending great slabs of steel requires huge machines capable of exerting thousands of tons of pressure. Yet this bending press, which has formed plate up to $9\frac{5}{8}$ inches thick and up to 40 feet in length, uses its brute strength with a tender touch. Its sensitive control system enables it to form huge heavy-walled boiler drums and various kinds of pressure vessels to a roundness tolerance of one-half of one per cent. ■ The press is but one of C-E's many thousands of tools, some of which are the largest of their type available. And when commercial machines are unavailable—or not exactly suited to its needs—C-E designs and builds its own. For instance, in one plant alone it has over 450 automatic welding machines some of which are capable of welding almost unlimited thicknesses of steel. Many of these were designed and built by C-E personnel. ■ C-E matches the diversity and precision of its tools with men whose training and experience enable them to produce gargantuan equipment to precise specifications. And this is another reason why the C-E nameplate is more than a label. On steam generators and fuel burning equipment, of all types and sizes, the C-E flame is a corporate signature which certifies performance, guarantees quality and dependability.

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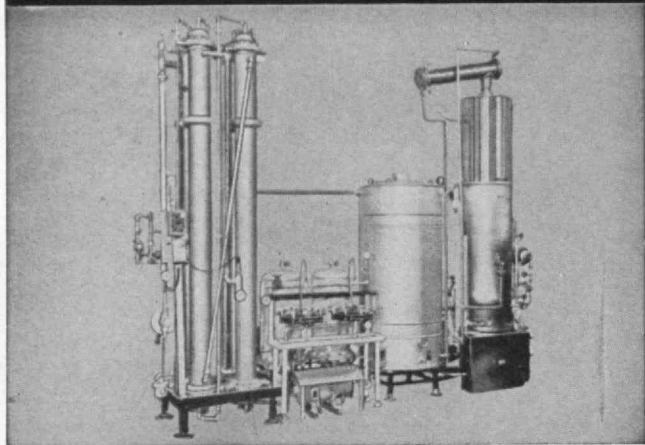
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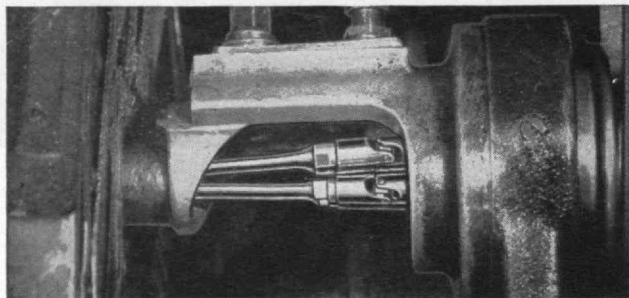


PHILCO CORP'S Lansdale Tube Division uses this "Train" of Barnstead Pure Water equipment in various manufacturing cycles. Operating cost is low because the greater part of the process water is repurified and fed back into the system for re-use. This "Train" includes a Barnstead 20 GPH High Purity Still, 150 gallon, heated, ultra-violet equipped tank to prevent growth of bacteria, two BD-10 Holders with special high purity Supercart-ridges®, an MF® 200 Submicron Filter, and Heat Exchanger. Another example of Barnstead's versatility in lowering manufacturing costs.

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Institute Yesteryears

Edited by H. E. Lobdell, '17

25 Years Ago

REGISTRAR J. C. MacKinnon, '13, announced that enrollment for 1937-1938 was 2,966 (up 173 from 1936-1937), including 661 in the Graduate School (up 42) and 605 freshmen (down 42). The number of freshmen was reduced by provisions for the stabilization of enrollment, under which the optimum size of the first-year class was to be held at approximately 600. The student body included 216 (7 per cent) foreign students who came from 38 countries.*

¶ In his Fourth Annual Report as Treasurer of the Institute, Horace S. Ford referred to fiscal 1936-1937 as a year which, "from an administrative viewpoint, will be pleasantly remembered as one of greatly increased income over budget estimates. For the first time the Institute deliberately refrained from using its entire investment income for the year and set aside a substantial amount—\$85,000—as an Income Equalization Reserve Fund."

Mr. Ford's balance sheet showed that during 1936-1937 total invested funds had increased \$3,340,383, or 10.3 per cent; and their book value on June 30, 1937, stood at \$35,668,000 while their "market value" at that date "was 109 per cent of book."

50 Years Ago

REGISTRATION for 1912-1913 was up 45 over the previous year, to a record total of 1,611.

¶ The Annual Report of William B. Thurber, '89, Treasurer of the Institute, covering the fiscal year ending June 30, 1912, showed current income of \$652,647 and expense of \$622,090, hence an excess of income amounting to \$30,557. Gifts and legacies totaling \$1,573,817 received during 1911-1912 were larger than for any previous year in Institute history.

¶ On the evening of November 16, 1912, a gathering of Alumni at the University Club in Kansas City, Mo., founded the "Southwestern Association of M.I.T.," now titled the M.I.T. Club of Kansas City.

75 Years Ago

FOR 1887-1888, registration totaled 720, an increase of 83 (13 per cent) over 1886-1887. Eleven were foreign students, including the first to enter from the following countries: Brazil—Francisco de M. Pinto, '91, of Rio de Janeiro; Ireland—Robert S. Ball, '91, of Dublin; Puerto Rico—Luis F. Verges, '91, of Maunabo; and Guatemala—Narciso T. Quevedo, '94, of Guatemala City.

¶ Treasurer John Cummings, in his Annual Report for the year ending September 20, 1887, noted that current income of \$167,394 had been \$5,186 less than expenses totaling \$172,580.

(Concluded on page 56)

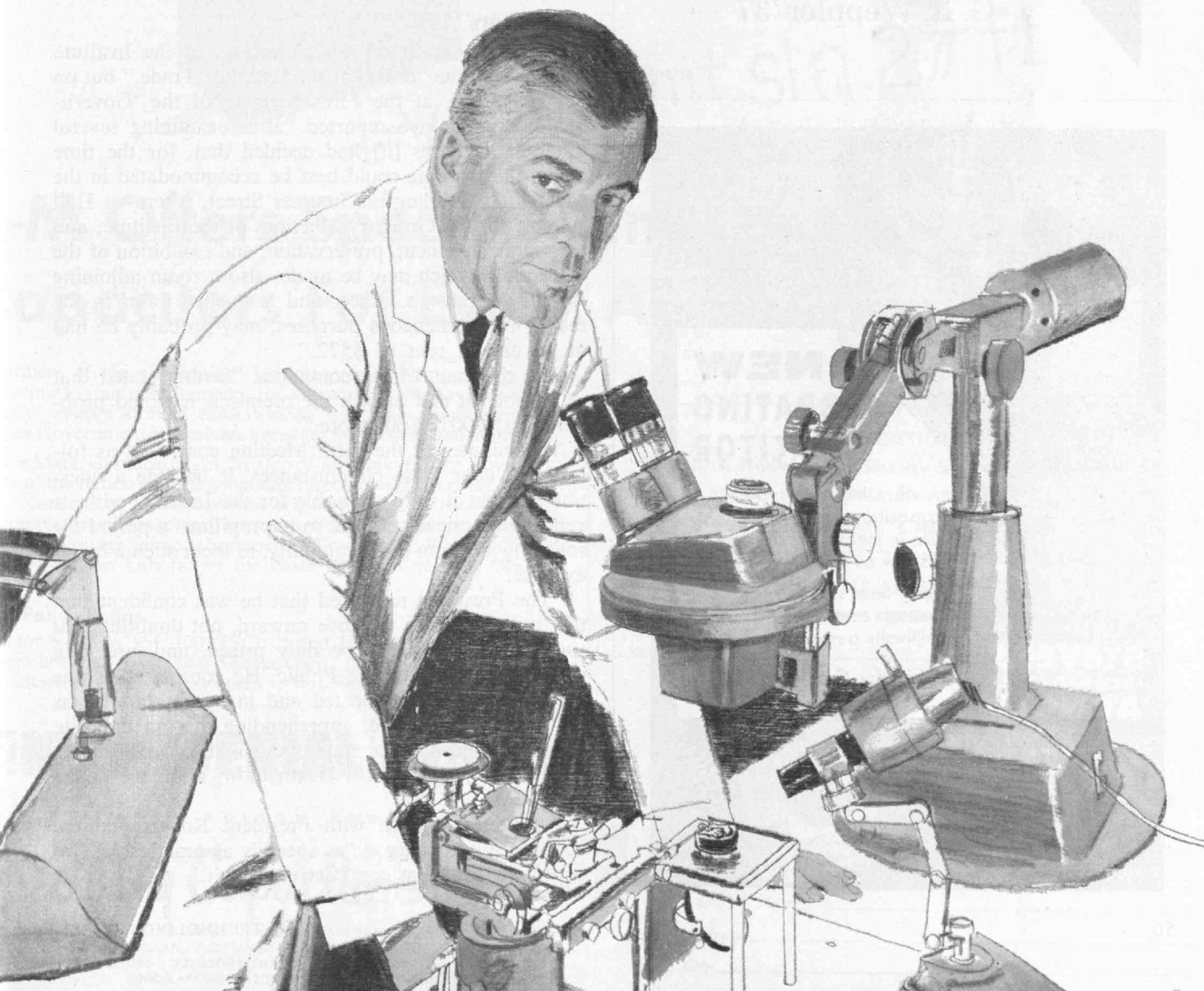
*Actually from one less than 38 countries inasmuch as the Office of the Registrar even in 1962-1963, under Registrar Robert E. Hewes, '43, persists in its refusal to recognize that in 1707 Scotland merged with England to form the United Kingdom.

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G. R. Weppler '37

Institute Yesteryears (Concluded from page 54)

¶ *The Tech* proudly announced that, "For the first time since the Institute eleven has belonged to a league, we have won the championship, although we have never stood lower than second place at any time." The unbroken string of victories by "the Techs" included defeating Dartmouth, 24-15; Tufts, 36-0; Trinity, 74-0; Amherst, 54-0; and Stevens, 24-0.

In celebration of all this, "a grand torchlight parade was held November 21st," for which *The Tech* said, "over 300 men turned out in line, with more following along the route of the procession. The boys presented a very grotesque appearance, wearing as uniforms *robes de nuit*, and 'plug hats,' the Seniors and Freshmen wearing black 'plugs' and the Juniors and Sophomores wearing white 'plugs.' All were profusely decorated with class colors and numerals. . . . A liberal amount of fireworks was ignited along the route."

¶ Among the items appearing in adjoining columns of *The Tech* were the following: "The Bicycle Club made a run to Wellesley on the 15th inst. . . . The Book Exchange has been in successful operation this fall. . . . An investigating '91 man announced the discovery of oxide of charcoal. . . . 27 men in '88 took the condition examination in Applied Mechanics. . . . A Freshman co-ed asked at the supply room a few days since, for a hood, remarking that hers was at home."

100 Years Ago

UP TO the autumn of 1862, meetings of the Institute were held in the "rooms of the Board of Trade," but on September 30, at the Fifth Meeting of the 'Government,' a committee reported "after examining several different locations [it] had decided that, for the time being, the Institute could best be accommodated in the Mercantile Building on Summer Street, where a Hall suitable for the Ordinary Meetings of the Institute, and for the arrangement, preservation, and exhibition of the Collections which may be made, also a room adjoining for the Secretary's Office, and a smaller room in the rear, for miscellaneous purposes, may probably be had at an annual rent of \$572."

The chairman of the committee "further stated that to suitably fit and furnish the premises, it would probably cost \$500 or \$600 more."

The minutes of the Fifth Meeting continued as follows: "Under these circumstances, it became a question whether it were advisable for the Institute with its very limited means, and at so unpropitious a period for soliciting aid from the community, to incur such a heavy expense."

"The President remarked that he was confident that the true policy was to move onward, not doubting that such a movement will be duly prized, and 'ere long suitably sustained by the Public. He considered it was all important to get located and in operation with as little delay as possible; apprehending that an opposite course of procedure, or state of quiescence, would inflict a serious injury, if not a Death blow, upon the enterprise."

All present agreed with President Rogers and the committee was charged "as speedily as practicable, [to] consummate the business" entrusted to it.



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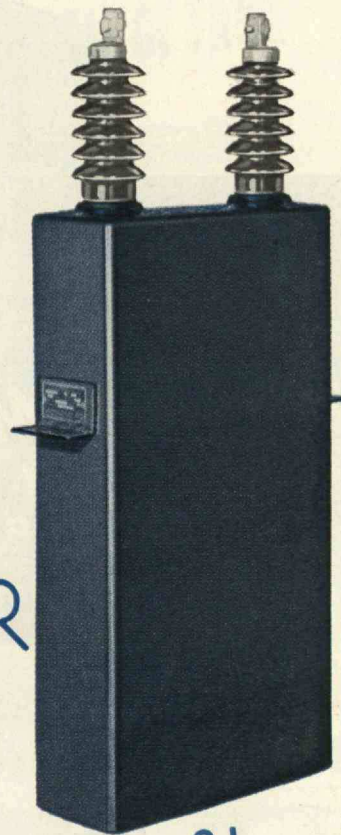
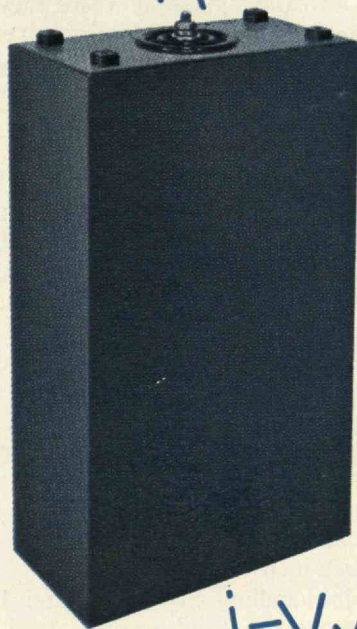


12-1/4

$$W = \frac{1}{2} CV^2$$

$$R > 2\sqrt{L/C}$$

$$2\sqrt{L/C} > R$$



$$2\sqrt{L/C} \gg R$$

$$i = \sqrt{C/L} \epsilon^{-mt} \sin 2\pi ft$$

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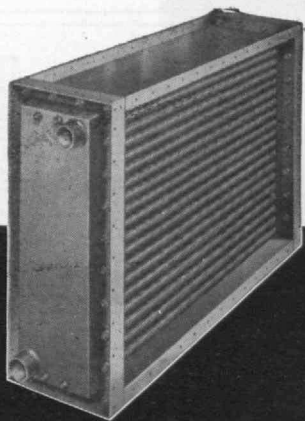
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Books

(Continued from page 38)

THE AGE OF ELECTRONICS, edited by Carl F. J. Overhage (McGraw-Hill, \$7.95), is a permanent record of eight addresses given to observe Lincoln Laboratory's decennial. The reviewer, Robert C. Cowen, '49, is on the staff of The Christian Science Monitor.

THIS VOLUME of lectures is a stimulating and informative memorial to the first decade of world famous Lincoln Laboratory. But more than this, it is a review of major areas of electronics, an outline of how they have arisen, and an expert guess at where they are headed. Thus, as the lectures did when first given, their publication in book form has turned a commemorative occasion into a forward-looking event.

The series begins, appropriately, with the foundations of electricity and electronics, the great achievements of Maxwell, Hertz, and Lorentz. With the advantage of many decades' historical perspective, Hendrik B. G. Casimir, Director of the Philips Research Laboratories and Professor of Physics at the University of Leyden, has lucidly traced the trail these physicists blazed to a new electrodynamics.

This is followed by a philosophical and provocative discussion of communications by Lloyd V. Berkner, President of the Graduate Research Center of the Southwest. He is talking about the concept of communications itself, not merely about means of accomplishing it. What implications does the lightning speed of today's communications have for men and society? Will this force men to transcend some of their present limitations in handling new ideas and in living and working together on a shrinking planet?

With the stage thus set historically and philosophically, the lecturers get down to specifics in six areas:

Ivan A. Getting, '33, President of Aerospace Corporation, outlines the development and future of radar. Charles H. Townes, Provost of M.I.T., and William Shockley, '36, Director of Shockley Transistor, do the same for masers (lasers) and transistors respectively.

In a slightly different vein, Edward G. Bowen, Chief of the Division of Radio Physics of Australia's Commonwealth Scientific and Industrial Research Organization, discusses the challenge and ennui radio astronomers face as they search for order in the universe.

In like manner, Stanislaw M. Ulam, of the Los Alamos Scientific Laboratory, takes the reader on an intriguing and intellectually demanding gambol among the foibles and prospects of statistical analysis with electronic computers.

And, as a timely finale, John R. Pierce, Research Director of the Communications Principles Division of the Bell Telephone Laboratories, presents a refreshingly candid analysis of the long, rocky, development road that lies ahead for communications satellites in spite of some spectacular experimental successes.

All and all, the collection offers an excellent background briefing of broad scope for nonspecialists in modern electronics. Experts, too, should find a rewarding challenge to their thinking. There is much of interest for even the utter layman, although the lectures are not recommended for bedtime reading.

(Book News is concluded on page 60)

1953: JOE CHEZ NAMED TO STANFORD BASEBALL HALL OF FAME

1962: JOE CHEZ NAMED TO NEW ENGLAND LIFE HALL OF FAME



- Stanford's great pitcher Joe Chez (won 31—lost 4) now wins in a different field. Here he and Chris Marelia, Trust Officer of the United California Bank, plan a financial security program for a common client. Both men are members of Sacramento's Estate Planning Council.

Let's read between the headlines: Joe Chez entered the Marine Corps after Stanford and, in addition to his regular duties, was appointed battalion insurance officer. "My job then was explaining the benefits of National Service Life Insurance," says Joe, "and I came to like the idea of giving people personal, individual help. That's one reason I decided on life insurance as a career. Another reason was that in life insurance I knew my efforts and ability would pay off directly in earnings." ■ Joe started with another company, came to New England Life in 1958, and was named First Year Star Producer

by this Sacramento Agency. Since then he has earned membership in our Leaders Association . . . and, more recently, New England Life's Hall of Fame. This latter achievement involves the sale of over one million dollars of life insurance during a single year. ■ Joe will be making other headlines in the years to come. But what about you? Does a career like that of Joe Chez appeal to you? If so, ask us to send more information about the opportunities that exist for men who

meet New England Life's requirements. Write to Vice President John Barker, Jr., 501 Boylston St., Boston 17, Massachusetts.

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Books

(Concluded from page 58)

Have You Seen These New Books?

RECENT publications likely to be of especial interest to M.I.T. Alumni have included:

Dynamics of Atmospheric Entry, by Commander Robert C. Duncan, '54, U.S. Navy (McGraw-Hill Book Company, \$12.50).

Experimental Transition Probabilities for Spectral Lines of Seventy Elements, National Bureau of Standards Monograph 53, by Charles H. Corliss, '41, and William R. Bozman (U.S. Government Printing Office, \$4.25).

Fluid Mechanics, 4th ed., by Raymond C. Binder, '30 (Prentice-Hall, \$8.75).

Foundation Engineering, edited by G. A. Leonards of Purdue University, contains a chapter on "Soil Stabilization," by Professor T. William Lambe, '44 (McGraw-Hill Book Company, Inc., \$25).

Introduction to Mechanics, Matter, and Waves, by Karl U. Ingard, '50, and William L. Kraushaar, Associate Professors of Physics (Addison-Wesley, \$9.75).

Logic, Methodology and Philosophy of Science, Proceedings of the 1960 International Congress, edited by Ernest Nagel, Patrick Suppes, and Alfred Tarski with a contribution by Noam A. Chomsky, Professor of Modern Languages (Stanford University Press, \$12.50).

Mechanics for Engineers: Statics and Dynamics, 2d ed., by Ferdinand P. Beer and E. Russell Johnston, Jr., '47 (McGraw-Hill Book Company, Inc., \$10.75).

The One and the Many, by John Brooks, a report on the Second Corning Conference, in which John R. Kimberly, '26, John A. Hrones, '34, and Patrick M. Hurley, '40, participated (Harper & Row, \$6).

Organic Reactions, Volume XII, edited by Arthur C. Cope, Professor of Organic Chemistry (John Wiley & Sons, \$13).

Selected Papers on New Techniques for Energy Conversion, edited by Sumner N. Levine with contributions by the late Joseph Kaye, '34, Clarence K. Morehouse, '47, Charles A. Domenicali, '49, George N. Hatsopoulos, '49, Morton B. Prince, '51, and John M. Houston, '55 (Dover Publications, \$2.85).

Studies in Applied Probability and Management Science, edited by Kenneth J. Arrow, Samuel Karlin, and Herbert Scarf with contributions by Donald P. Gaver, Jr., '50, and Richard C. Singleton, '49 (Stanford University Press, \$8.50).

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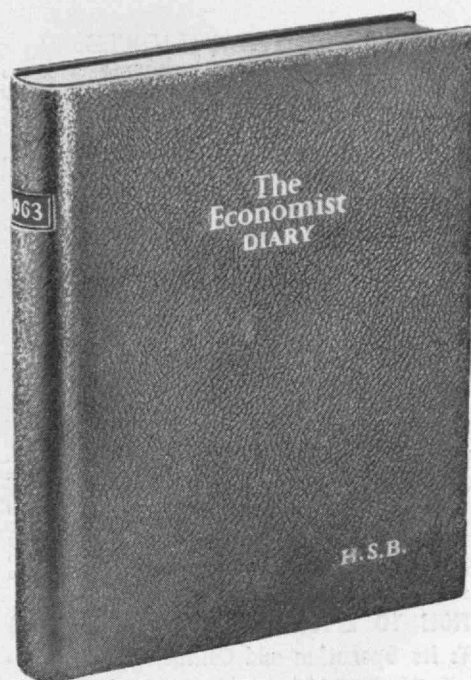
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Presents an advanced discussion on the theory underlying the design of modern digital machines. Utilizes a systematic and integrated approach combining the disciplines of machine design and switching theory. Included in the discussion are the algebraic and logical foundations fundamental to the theoretical and practical aspects of digital machine design. Though primarily a textbook for senior and graduate courses, the volume will be equally useful for the practicing engineer in the digital field and the mathematician interested in the theory of machines, since the design techniques covered are the results of years of experience in actual machine design.

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By BENJAMIN LAX and KENNETH J. BUTTON, both at Massachusetts Institute of Technology, Lincoln Laboratory. Lincoln Laboratory Publications. 608 pages, \$15.00.

This book discusses the solid state of physics of magnetic ferrites, garnets, and related ferrimagnetic materials and leads into a description of the theory and experimental behavior of microwave devices. Incorporated are the latest experimental and theoretical results necessary for a comprehension of the phenomena and applications. The mathematical development is exceptionally lucid and mathematical results are correlated with experimental data wherever possible. Contains an extensive bibliography.

INTRODUCTION TO ELECTRONIC DATA PROCESSING EQUIPMENT: Its Operation and Control

By ROBERT V. OAKFORD, Stanford University. McGraw-Hill Series in Information Processing and Computers. 352 pages, \$10.00.

Emphasizing man-machine communications, this book explains how to communicate with electronic computers and auxiliary punched card equipment and discusses the principles of the equipments' operation. Introduced are: number and coding systems as the basic language of computers; the basic components of an electronic computer; machine language; symbolic and algorithmic language programming; program testing; and the programming of plug board and controlled auxiliary equipment. The IBM650 is used as an example in the discussion of computer organization and machine language programming. Only a knowledge of algebra is presupposed.

PROGRAMMING AND UTILIZING DIGITAL COMPUTERS

By ROBERT S. LEDLEY, National Biomedical Research Foundation and The Johns Hopkins University. McGraw-Hill Series in Information Processing and Computers. 592 pages, \$12.50.

This textbook for undergraduate and graduate courses discusses programming on both scientific and business levels. It covers machine language programming; the three-, two-, and one-address instruction systems; automatic programming languages, with chapters on ALGOL and COBOL; and methods for utilizing computers, designed as a source for programming problems. Concrete examples illustrate all discussions. Approximately 500 exercises follow each chapter.

NUCLEAR POWER ENGINEERING

By M. M. EL-WAKIL, University of Wisconsin. Available in November.

Text has as its primary objective the engineering aspects of nuclear power. First part is designed to fill needs of students with no background in nuclear and reactor physics, or as a refresher. Second and third parts concentrate on major objectives of the book, beginning with heat generation and removal, fluid flow and heat transfer, core thermal and hydrodynamic design, thermodynamics, various nuclear power plant types—their control, cycles, components, etc. For the reader who wants a complete treatment on the subject of reactor core and reactor power plant engineering design and operation.

INTRODUCTION TO THE THEORY OF FINITE-STATE MACHINES

By ARTHUR GILL, University of California, Berkeley. Electronic Sciences Series. 224 pages, \$9.95.

The first book to cover the basic material on finite-state machines. The book explains the ideas and techniques underlying the theory of synchronous, deterministic, finite-state machines. Emphasis is on techniques of analysis. The material is presented in a systematic, readable fashion, with numerous illustrative examples and exercises.

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Trend of Affairs

(Continued from page 30)

The Computer Helps Historians

TWO MATHEMATICIANS have used modern statistics and the IBM 7090 computer at M.I.T. to find out who wrote 12 of the Federalist papers, authorship of which has puzzled historians since the Nineteenth Century. The results point strongly to James Madison.

For their study the two professors, Frederick Mosteller of Harvard and David L. Wallace of the University of Chicago, first determined how often certain key words, such as "upon," "enough," and "kind," appeared in the known writings of Madison and of Alexander Hamilton. They then used these word counts to construct a kind of numerical picture of each man's style. After analyzing the disputed Federalist papers in the same way, they calculated how closely the results matched each author's style.

The 77 essays known as the Federalist papers appeared in New York newspapers during 1787-1788 and were written to persuade the citizens of the state to ratify the U.S. Constitution. Historians generally have agreed that John Jay wrote 5, Hamilton 43, and Madison 14 of these papers, but have been uncertain about the authorship of 12 of the remaining papers and three that may have been jointly written.

Madison wrote 11 of the disputed essays, the recent research indicated. The results for another paper also favor Madison, but here the odds, 80 to 1, that he was the author are weaker. In addition, the study indicated that Madison wrote the bulk of two of three jointly written essays. The results are less clear-cut for the third jointly written paper, and Madison's notes suggest that he borrowed much of it from Sir William Temple, an Eighteenth Century British statesman.

In comparing the essays, Professors Mosteller and Wallace used a traditional statistical method of discrimination and a new approach based on a Bayes theorem. Their case study of the Federalist papers was the first extensive numerical analysis of data based on this modern theorem. It may thus help to open up other problems of discrimination, widespread in statistics, to the Bayesian technique.

(Continued on page 64)

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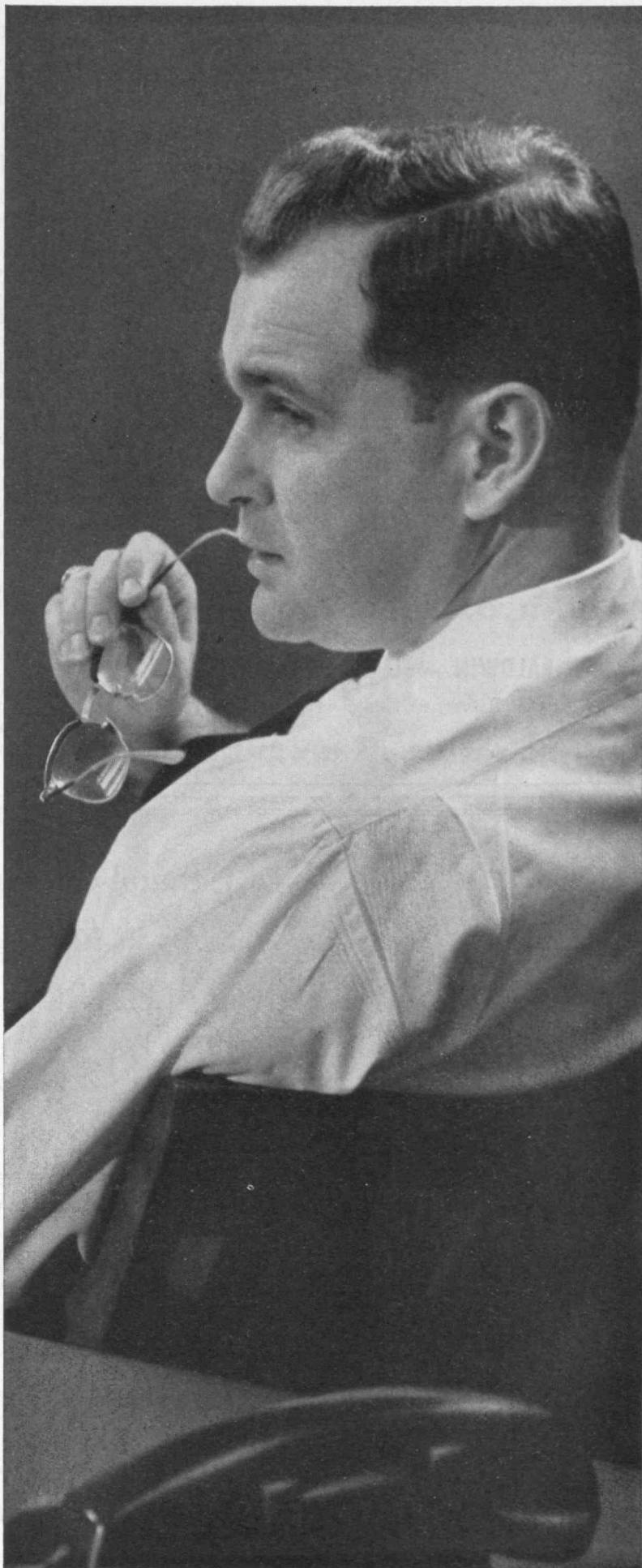
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Trend of Affairs

(Continued from page 62)

The Moon and the Rains

HEAVY PRECIPITATION in the United States has occurred more often near the middle of the first and third weeks of the synodical month than in the intervening weeks. Our big rains, in fact, have tended to come on the third to fifth days after a new moon and after a full moon.

This was shown recently by a study of Weather Bureau records undertaken by Donald A. Bradbury and Max A. Woodbury of New York University, and Glenn W. Brier, who was in the M.I.T. Division of Sponsored Research last spring. The reason for the tendency that they have noted is not clear, and in reporting their findings in *Science* (September 7, 1962, p. 748) they warned against basing day-to-day predictions on the position of the moon.

That there are tides in the air as well as in the sea ascribable to the moon's gravitational force has been known for many years. The moon's effect on atmospheric pressure at the earth's surface is so slight, however, that meteorologists have questioned whether it could be a significant factor in determining temperature and precipitation. Although it has been rumored that every mention of the moon in a research proposal nowadays is worth a thousand dollars, no mechanism relating the moon's position to rainfall has been discovered. The data now available, however, may stimulate further efforts to establish the existence or nonexistence of some such mechanism.

(Concluded on page 66)

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Trend of Affairs

(Concluded from page 64)

Flying Here on Earth

A NEW interdepartmental course in Flight Transportation being offered at M.I.T. this fall comes to grips with the problems besetting a man trying to get from New York to London, Los Angeles, or Sioux Falls, rather than to the moon. It will deal with topics certain to affect millions, such as the advent of new aircraft, the problems of competing airlines under government regulation, domestic and international route allocation, air traffic control, and ground transportation facilities.

Lectures by members of the Faculty from the Departments of Aeronautics and Astronautics, Civil Engineering and Electrical Engineering, and the School of Industrial Management are being supplemented by seminars in which J. Godfrey Borger, '34, of Pan American, William H. Cook, Jr., '38, of Boeing, and John R. Wiley, '33, of the Port of New York Authority, will participate. Also helping out are the Federal Aviation Administrator, the chairman of the Civil Aeronautics Board, the U.S. representative to the International Civil Aviation Organization, the President of the Air Transport Association, and other leaders of the industry.

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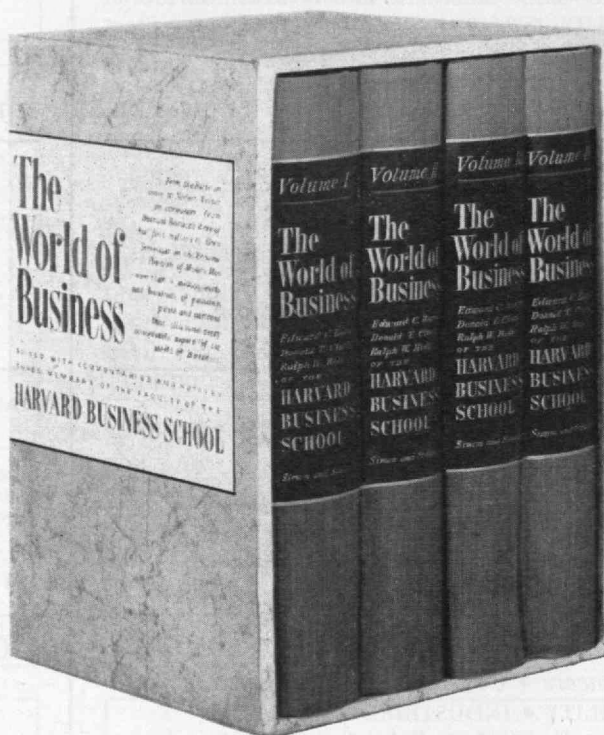
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Club News

The Institute and Satellites Discussed at N. H. Meeting

Last spring the M.I.T. Club of New Hampshire held a stag dinner meeting at the Manchester Country Club. The feature of the evening was an illustrated talk on Air Space Exploration Activities by Lieutenant Colonel Nicholas S. Polio, USAF Satellite Operations Officer at the new Boston Tracking Station. Other guests included Douglas F. G. Haven, '52, of the Alumni Association and Donald P. Severance, '38, Executive Vice-president of the Alumni Association, who talked on recent developments at the Institute.

The following members attended: George E. Apel, '26, Louis A. Arnold, '42, Blaylock Atherton, '24, Edward H. Beaupre, '41, Jason T. Bickford, '23, Dwight E. Brown, '51, Edmund C. Butler, '53, Charles H. Campbell, '28, Philip N. Cristal, '17, Walter D. Davol, '06, Richard J. DeCloux, '53, Edward C. Fales, '22, Clarence W. Farr, '33, Alan E. Ferry, '61, Paul O. Gaddis, '61, Lawrence C. Hall, '35, Sidney L. Hall, '43, Paul F. Hayner, '51, Corbet S. Johnson, Jr., '58, Roland E. Johnson, Jr., '53, John H. Kellogg, Jr., '44, Howard M. Kessler, '61, Harold E. Langley, '19, Harold E. Langley, Jr., '55, Julian Lovejoy, '22, Charles R. Prichard, Jr., '30, John P. Rich, '29, Renaldo A. Rivero, '54, Howard F. Russell, '23, Roger R. Smith, '26, Donald H. Spitzli, '27, Robert E. Spoerl, '46, and M. Arnold Wight, Jr., '40.—Blaylock Atherton, '24, Secretary, 142 Main Street, Nashua, N. H.

M.I.T. Club of Lehigh Valley Attends Summer Playhouse

Twenty-five members attended the spring meeting of the M.I.T. Club of the Lehigh Valley. Dinner was served in an attractive setting at Stokesay, a replica of a Scottish castle which overlooks one of the lush green valleys near Reading. After an informal business meeting, we adjourned to Green Hills, Reading's summer playhouse, to see "The Fantasticks." The play was an agreeably off-beat and well presented satire on lavish Broadway musicals and their plots.

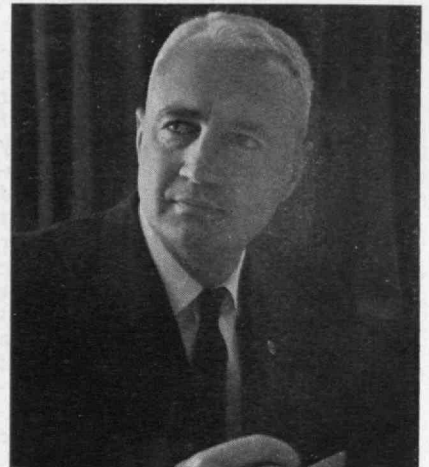
The club remains solvent, according to treasurer William F. MacKenzie, Jr., '45, despite less than usual activity during the recent season, which is in part a consequence of Second Century Fund efforts. The club elected George F. Halfacre, '18, and Stephen L. Muther, '34, for three-year terms as members-at-large, and the remaining officers and members-at-large continue in office. The club is most grateful to Otto A. Putnam, '33, for planning the enjoyable evening.—William V. Bassett, '39, Secretary, 3429 Mountainview Circle, Bethlehem, Pa.

Club Officers at Institute Alumni Officers' Conference

Fifty officers from M.I.T. Clubs across the country, 125 members of the Educational Council, and 111 officers of classes were among the 350 Alumni who participated in the Fourth Alumni Officers' Conference at the Institute September 7 and 8. In addition to attending seminars on Alumni activities, they were received by President Stratton and visited new Institute facilities. Some of the club officers present at the luncheon addressed by Vannevar Bush, '16, on Saturday are pictured below:



Russell N. Cox, '49, President, M.I.T. Club of Boston



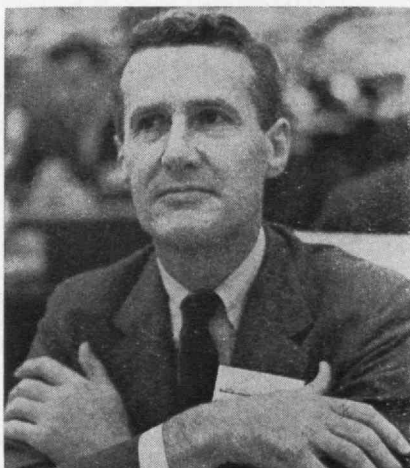
Jay Zeamer, Jr., '40, President, M.I.T. Club of Route 128



G. Raymond Lehrer, '24, representative, M.I.T. Club of Boston



William C. Howlett, '49, Vice-president, Washington, D.C. Club



Michael Witunski, '43, Vice-president, M.I.T. Club of St. Louis



Arthur Lowery, '32, President, Central Massachusetts Club

Washington Group to Meet at Cosmos Club, Postpones Its Annual Fall Smoker

On May 16 the 1962-1963 Executive Committee of the Washington M.I.T. Club adopted a schedule for the year. As subsequently adjusted, the schedule provides for dinner meetings at the Cosmos Club on November 8, February 26, and April 25. The now traditional Christmas Vacation luncheon for alumni, undergraduates, and local applicants for admission to the Institute will be December 27, also at the Cosmos Club. As in past years, the chairman for this event is Robert W. Blake, '41. At the time of writing plans for the fall smoker, usually held at the Potomac Boat Club in September or October, had been abandoned because it was discovered that the boat house could not meet the standards for an appropriate use permit.

In June the Pentagon Luncheon Group elected Lieutenant Colonel James R. Cumberpatch, '60, as president; John E. Jackson, '24, as program chairman; and Arthur J. Reardon, '27, as secretary-treasurer.

In August the Institute announced the appointment of William C. Howlett, '49, as Regional Chairman of the Washington Educational Council. He succeeds Albert

F. Bird, '30, who resigned from that position because of his recent transfer to Michigan for an extended period in the United States Army Mobility Command. The Educational Council is composed of alumni volunteers who maintain contact with local high and preparatory schools to furnish guidance information to school faculty, staff, and students and reporting to the Admissions Office of the Institute on personal interviews with applicants. Al Bird, a past president of the M.I.T. Club of Washington, who was appointed an Honorary Secretary of the Institute in 1946, has been an active member of the Educational Council since its formation in 1951, and had been Regional Chairman for the Washington area since 1953. Bill Howlett is President of the Union Iron Works of Washington and is currently first vice-president of the M.I.T. Club of Washington.

The Fourth Annual Alumni Officers Conference held at the Institute September 7-8 was attended by Samuel Bensinger, '31, Robert W. Blake, '41, and William C. Howlett, '49.—Paul M. Robinson, Jr., '44, Secretary, 8009 Jansen Drive, W. Springfield, Va.

California Club Tours Technical Plant

The M.I.T. Club of Southern California had an extremely successful plant trip in July when a large group of Alumni and their guests toured the Rocket-Dyne test site at Santa Susana for the second time in the last three years. This trip is one of the real highlights of the available technical plants in the Southern California area. Since they allow only four groups per year to visit the site, we consider ourselves highly honored to have been invited this year. During the trip the group saw several static rocket motor tests on the stands deep in the hills north of the San Fernando Valley.

The trip was preceded by an excellent luncheon at the Queens Arms restaurant in the San Fernando Valley. C. William Guy, '39, Executive Vice-president of Rocket-Dyne, addressed those at the luncheon about what they were to see on the trip.

The following Alumni and their guests went on the tour: Milton A. Abel, '41, John M. Abrams, '18, Kenneth B. Amer, '47, David R. Andelin, '53, George W. Armerding, '60, Larry A. Baron, '60, John W. Barriger, 4th, '49, Dean E. Batchelder, '28, Philip K. Bates, '24, Bruce G. Belt, William R. Biderman, '50, Robert H. Boden, '34, Thomas S. Budlong, '59, James M. Callis, M. Click, R. W. Cooper, Robert N. Creek, '47, George M. Cunningham, '27, Valentine Davidson, '51, James E. P. Davis, '56, Oleg J. Devorn, '34, John F. Downing, '38, John H. Driggs, '21, Otto K. Eitel, '24, William K. Geist, '50, Frederick C. Gray, '51, Philip A. Herrick, '24, R. James Hoffman, '51, David M. Hughes, '15, Leon Hyzin, '33, Steven C. Jellus, '52, Maxwell H. Kaplan, '42, Robert G. Kelm, Jr., '59, I. Warner Knight, '41, Alexander M.

Liff, '24, L. Howard Littlefield, '17, Samuel E. Lunden, '21, William H. MacCallum, '24, Warren H. Martell, '30, Douglas Montgomery, '24, Robert J. Moon, '47, William F. Mullen, '36, Charles A. Piper, '35, Robert M. Ransier, '44, Frank F. Reed, '24, R. Rollins, Louis E. Rudnick, '30, James W. Schumacher, '60, Wilfred H. Shaw, '42, Ralph M. Shoffner, '55, Harold E. Simmons, '44, David I. Sinizer, '51, P. Smith, Dr. Robert D. Soloman, '38, Andrew Spanur, Jr., '22, Grant G. Speer, '26, Jerome W. Stafford, '28, Walter G. Sutton, Jr., '43, Frank W. Taylor, '43, Burnett C. Turner, '28, Vincent C. Verlangieri, '53, Jackson E. Wignot, '40, John H. Wright, '48, and Edward Zoolalian, '56.—Arthur Schwartz, '47, Assistant Secretary, 8355 Blackburn Avenue, Los Angeles 48, Calif.; Albert A. Levingston, '49, Secretary, 625 South New Hampshire Avenue, Los Angeles 5, Calif.

Hawaii Club Gains In Membership

Hawaii records show that there are 126 M.I.T. graduates now in the 50th state. The newest addition is William E. Stanley, Professor Emeritus of Sanitary Engineering at M.I.T. Professor Stanley arrived in Honolulu on September 6 to join the firm of Sunn, Low, Tom and Hara, Inc. This firm, which performs civil and sanitary engineering work, has two principals who are graduates of the Institute: Franklin Y. K. Sunn, president, obtained his Master's degree and Sanitary Engineer's degree from M.I.T. in 1952. Dr. Albert Q. Y. Tom, vice-president and director, obtained his Doctor of Science degree in Sanitary Engineering in 1951.—Franklin Y. K. Sunn, '52, Secretary, 195 S. King Street, Honolulu, 13, Hawaii.

Detroit Club Hears Theater Organ Recital

The M.I.T. Club of Detroit concluded a successful 1961-1962 season with a meeting on May 24. A tour of Detroit's new postoffice was the first order of business. Afterwards Alumni and their guest enjoyed a Polish buffet dinner. At the business meeting following dinner officers were elected for the coming year: W. James Mast, '53, president; Ernest W. Upton, '43, vice-president, programs; Julian M. Greenebaum, '53, vice-president, membership; Ella P. Gardner, '55, secretary; and J. Edward Schwrtz, '52, treasurer.

William G. Peck, '40 arranged a most enjoyable evening at the Detroit Theatre Organ Club. The club was formed around an organ bought from Detroit's Fisher Theatre, recently remodeled into a legitimate theater. Bill Boswell reminisced about the heyday of the theater organ in the 20's and 30's when he played in various theaters on the East Coast. He played selections popular at that time and accompanied a silent movie much to the delight of the crowd.

We're looking forward to another active year in Detroit and hope that anyone in the area reading this who wishes to be on our mailing list and is not for some reason will contact the secretary.—Ella Paton Gardner, '55, (Mrs. Richard Gardner), Secretary, 1821 Villa, Birmingham, Mich.

Oregon Club Inspects Portland Industries

The M.I.T. Club of Oregon met for a dinner and plant inspection tour of the works of Willamette Iron and Steel Company and the Bingham Pump Company in Portland last May 21. Earl Jennett, President of WISCO, showed us the interesting projects carried on at the plant: the manufacture of valves up to 96 inches long for the waterworks of New York City; an exotic thing called an issostatic compactor, developing 40,000 pounds per square inch; construction and assembly of the large water wheel turbines for the Wanapum Dam; and the reconditioning of large ships, which is one of WISCO's principal activities. The Bingham Pump Company manufactures precision pumping equipment for atomic processes.

Members of the club enjoyed this tour of two of Portland's most important industrial establishments.—Elaine Spencer, '48, Secretary-Treasurer, 4835 N.E. Broadway, Portland 13, Ore.

Hartford Club Elects Officers

At the annual election meeting last spring the M.I.T. Club of Hartford elected the following officers for the coming year: Wilfred Roth, '48, president; Theodore A. Earl, '35, vice-president; William A. Bayer, '58, secretary; and Arthur K. Deming, '35, treasurer.

The club will continue its policy of inviting professors from the Institute as guest speakers.—William A. Bayer, '58, Secretary, 422 Farmington Avenue, Hartford, Conn.

Newport Naval Base Host To Rhode Island Club

The annual meeting of the M.I.T. Club of Rhode Island was held in May. The club was taken for a tour of the Newport Naval Base, and an informative film on underwater ordnance was shown.

Most of the Alumni attending were accompanied by their wives. We were pleased to have such a large turnout of the ladies and hope they will join us more often.

H. Bruce Leslie, '38, chairman of the nominating committee, announced that the previous year's officers had been nominated again, and the club re-elected: William H. Barker, '23, president; Colin A. Roberts, '46, vice-president; and S. Martin Billett, '48, secretary-treasurer. The club president made the following appointments to the executive committee: Royal Sterling, '23 and David Z. Bailey, '44. Reappointed to the executive committee were: William L. Ahlberg, '51, Arthur Campopiano, '28, John D. Eldert, '27, Roger M. Freeman, Jr., '44, H. Bruce Leslie, '38, Donald G. Robbins, '07, Edgar J. Staff, '35, Arthur N. Verrier, '46, John B. Waller, '41, and Kenneth M. Warren, '35.

Bruce Leslie was appointed to plan the October meeting. Ken Warren was appointed Alumni Council representative.—S. Martin Billett, '48, 16 Greenwood Avenue, Barrington, R. I.

Dr. Scrimshaw Speaks to Group in Wilmington

The spring meeting of the M.I.T. Club of Delaware Valley was held at the DuPont Country Club in Wilmington. Many Alumni renewed friendships before dinner on the veranda overlooking the golf course.

Dr. Nevin S. Scrimshaw, who heads the Institute's Department of Nutrition, Food Science and Technology, spoke on "Recent Advances in Nutrition and Food Science." He showed a film entitled "Hungry Angels," which portrayed the problems and the efforts Dr. Scrimshaw has made in solving the nutritional deficiencies and dietary ignorance in Central America.—Thomas V. Griffiths, '57, Secretary, Spring Valley Drive, Media 27, Pa.

Pennsylvania Group Holds Ladies' Night

The M.I.T. Alumni Club of Northeastern Pennsylvania held its annual summer ladies' night meeting in August at the Irem Temple Country Club in Dallas, Pa. The dinner was preceded by a cocktail hour at the home of the club president and Mrs. Gustav A. Kabeschat, '55. Guests included Mr. and Mrs. Benjamin G. Dann, Jr., '48, Mr. and Mrs. William L. Dennen, '17, Dr. and Mrs. Charles P. Hadley, '50, Mr. and Mrs. Paul C. Isenberg, '47, Mr. and Mrs. Leroy W. Janson, '48, Mr. and Mrs. Stanford B. Jones, '51, Mr. and Mrs. Louis V. Russoniello, '40, and Mr. and Mrs. Albert C. Smith, '27.—Stanford B. Jones, '51, R.D. #1, Dalton, Pa.

New York Club Elects Harold F. Smiddy as President, Organizes Eight New Committees

The New York Club's officers for the coming year are: Harold F. Smiddy, '20, President; Alexander J. Tigges, '23, George Henning, '33, and Robert W. Morgan, '55, Vice-presidents; John E. Preschlack, '54, Treasurer; Frank P. Brunetta, '49, Secretary; Anton E. Hittl, '36, Theodore A. Mangelsdorf, '26, Thornton E. Smith, '45, David M. Broudy, '22, Edward S. Goodridge, '33, Augustus B. Kinzel, '21, Thomas D.A. Brophy, '16, Irving D. Jakobson, '21, Theodore T. Miller, '22, and Myron A. Cantor, '39, Directors.

Eight committees have been established to make the Club a pace-setter among the Institute's Alumni Clubs around the world; they will deal with policy, executive, building fund, placement, publications and publicity affairs, finance, program and membership. The chairmen are, respectively: Charles P. Bowen, Jr., '35, Harold F. Smiddy, '20, (Building and Placement Committees open), James M. Margolis, '52, Samuel R. Spiker, '25, and D. Malcolm Fleming, '33. Membership is still open. Other key members are: Donald P. Severance, '38, A. Stuart Powell, Jr., '49, Ralph W.

Peters, Jr., '55, and Frank R. Milliken, '34.

The club has run two highly successful outings: the Long Island section held its annual beer party and heard a paper on "Aircraft Accident Inspection," and Consolidated Edison revealed its nuclear powered generating station in Indian Head, Peekskill, N. Y. Two Consolidated Edison alumni participated in this event: Harland C. Forbes, '23, and C. Wesley Meytrott, '27, Board Chairman and Vice-president respectively. November 17 is Long Island's date for Smörgasbord and a travelogue at the Sky Club, Roosevelt Field, Garden City. Long Island's travel outings have been very successful each year.

All Alumni are welcome to attend club activities and to use the club's facilities, presently located in the Hotel Biltmore, Madison Avenue and 43rd Street, a convenient place for non-resident members and other Alumni to meet for cocktails, dinner, and discussions.—James M. Margolis, '52, Chairman, Publications, Publicity, 5 Fenton Street, Rye, N. Y.; Frank Brunetta, '49, Secretary, 1 Old Oak Court, Syosett, N. Y.

Northern New Jersey Club Schedules Year's Meetings

The officers elected by the Northern New Jersey Club for 1962-1963 are: John M. D. Walch, '48, President; James L. Vaughan, '36, Vice-president; Roy F. Thorpe, '58, Vice-president for Programs; Colonel Carlo N. De Gennaro, '53, Secretary; Mitchell G. Lapinski, '47, Assistant Secretary; Joseph Wenick, '21, Treasurer; and James J. Shyne, '43, Assistant Treasurer. The newly elected three year term Governors are Jack F. Andrews, '33, John W. Cannon, '24, and Stuart R. Fleming, '32. Other members of the Board of Governors are Henry G. McGrath, '36, Ex-officio Past President; James A. Daley, '50, Donald G. Espey, '47, Stuart G. Stearns, '39, James J. Shyne, '43, Roy F. Thorpe, '58, and John P. Wall, '50.

The following committee chairman appointments have been made: Representative on Alumni Council, George A. Cutter, '21; Attendance, Donald A. Peterson, '57; Committee to Attract Younger Graduates, Norton Belknap, '50; Educational Council, Stuart G. Stearns, '39; Finance, Joseph Wenick, '21; House, Harry Sherman, '47; Membership, Marshall G. Schachtman, '57; Placement, Russell P. Westerhoff, '27; Publicity, Donald G. Espey; Reception, James L. Vaughan, '36; and Scholarship, John T. Reid, '48.

The club year started on Wednesday, August 29, with a Frosh Orientation. About 50 members of the Class of 1966 queried a seasoned team of alumni about housing, clothes, girls, and sophomore pranks.

At the fall meeting on September 25 at the Hotel Suburban, East Orange, the guest speaker was to be Dr. C. Stark

Draper, '26, Professor and Head of the M.I.T. Department of Aeronautics and Astronautics and Director of the M.I.T. Instrumentation Laboratory. Dr. Draper is responsible for development of the inertial guidance systems in the Air Force Titan and Thor ballistic missiles and the Navy's Polaris. He is already at work on the Apollo guidance system for the trip to the moon.

The Alumni Fall Field Trip was to be to the U. S. Air Force Stage Facility of the New York Air Defense Sector at McGuire Air Force Base on Saturday, October 20. The program was planned to include a briefing and tour of computer and display command and control rooms.

The next meetings are tentatively scheduled as follows: winter meeting, December 4, Hotel Suburban, Summit; spring meeting, March 13, Hotel Suburban, East Orange; and summer dinner meeting, May 9, Hotel Suburban, East Orange. All M.I.T. alumni residing or touring in the area on these dates are warmly invited.—Carlo N. DeGennaro, '53, Secretary, 905 Hudson Street, Hoboken, N. J.

Smoker Held for Dallas Freshmen

A smoker for the Dallas area freshmen entering M.I.T. this fall was held August 29. Philip S. Schmidt, '62, John Mertens, '64, Frank Berkman, '64, and Stanley Martin, Jr., '50, of the M.I.T. Club of Northern Texas provided plenty of free advice, some of which we hope proves useful. Two of the four Dallas area freshmen were able to attend, Guy Frindell and George B. Lotridge, Jr.—Stanley Marktin, Jr., '50, Secretary-Treasurer, 3522 Townsend Drive, Dallas 29, Texas.

Californians Entertain M.I.T. Undergraduates

The M.I.T. Club of Southern California sponsored a buffet dinner and get-together at the home of Robert Welles, '15, in Alhambra, Calif., for M.I.T. undergraduates last August 4. This was the fourth annual such gathering and was attended by a record crowd. The club officers and Alumni Council members were the hosts and the students—entering freshmen and returning upperclassmen—had a fine time renewing old acquaintances and making new ones.

Although the intent and the general discussion were the same as in the past, the setting was considerably different this year. The atmosphere was more relaxed and informal in a lovely private home than it would have been in a downtown club. A full meal by an excellent caterer also was more satisfying to the flesh than was the former ice cream and coffee. The club is indebted to Bob Welles, and the students will undoubtedly remember the party. Those who attended the meeting are pictured below:

First row—Robert Welles, '15, Mrs. Philip K. Bates, Louisa Lott, '66, Barbara F. Levine, '61, Betty J. Salzberg, '65, Nancy H. Woo, '65, Betty L. Schnaar, '66, Richard W. Sullivan, '65, Malcolm J. Rayfield, '65;

Second row—Richard Lowensohn, '65, Clarence Hunsucker, '66, John Rible,

'66, Peter Wolfe, '66, Richard Albert, '66, Lawrence King, '66, John Dingler, '66, DeTravis Engen, '65, Marvin Sirbu, '66, William A. Parkyn, Jr., '66, Ted Harris, '66, David Maxwell, '66, Arthur Schwartz, '47;

Third row—Wesley Akutagawa, '64, Charles D. Sigwart, '64, Dale Miller, '63, Mike Harris, '63, Stan Pliska, '65, Elliott Green, '66, Richard Graff, '66, Richard Morton, '63, Edward Fiala, '66, Gary Laux, '66, Gerald Wolpin, '66, Mark Wicclair, '65;

Fourth row—Art Connolly, '63, Robert Menzies, '65, Henry Lichstein, '65, Kim Sloat, '64, Bill Watson, '64, Donald Endo, '66, Harold Solomon, '63, Alan Steinman, '66, Bill Harper, '64, Richard Sherman, '65, Andy Achterkirchen, '64, Mike Burton, '64, Richard Schmidt, '66;

Fifth row—T. Gary Loomis, '44, Stanley D. Zemansky, '37, Philip K. Bates, '24, Robert E. Hiller, '31, Page E. Golsan, Jr., '34, George M. Cunningham, '27, Richard S. DeWolfe, '36, Charles M. Walker, '49, Albert A. Livingston, '49. Present but not photographed were: Neil Colden, '63, John Murdock, '63, Verne Jacobs, '64, Melvyn Keznick, '64, Tiina Repnau, '64, Dennis Reinhardt, '65, Bob Jones, '66, and Terry May, '66.—Arthur Schwartz, '47, Assistant Secretary, 8355 Blackburn Avenue, Los Angeles 48, Calif., Albert A. Livingston, '49, Secretary, 625 So. New Hampshire Avenue, Los Angeles 5, Calif.

Visitor from Institute Addresses Tokyo Club

It gives me a great pleasure to report that our Association has had an interesting year, as before, by welcoming many visitors from our Alma Mater.

On June 22 we invited Professor Charles A. Myers to our meeting, and he gave us vivid pictures of the Department of Economics and Social Science and the School of Business Administration. We were impressed with the rapid expansion and significant programs at Cambridge.

Before the arrival of Professor Myers we held a business meeting and elected the following officers for next year: Shikao Ikehara, '28, president; Masaru Miyauchi, '29, vice-president; and Yukio Hori, '57, secretary.—Shikao Ikehara, '28, President, Tokyo Institute of Technology, Department of Mathematics, Oh-Okayama, Meguro-ku, Tokyo, Japan.

Route 128 Club Meets Boston Luncheon Group

The Route 128 Club of M.I.T. met jointly with the Boston Luncheon Club for their first meeting of the fall season at the Museum of Science. The speaker for this meeting was William B. Bergan, '37, president of The Martin Company, Baltimore, Md.—Robert E. Anslow, '54, Secretary, 82 Woodland Road, Lexington, Mass.



Southern California Alumni and undergraduates get together in August, as pictured here, at the home of Robert Welles, '15.

Class News

'91

Our 71st annual meeting was held at the banquet at the Brookline Country Club last June. The chief matter for discussion was what to do with the class records. They are now in temporary storage after having been kept with much care by succeeding secretaries. They cover one of the great periods of the world's history, sometimes with remarkable insight and value. Do you remember **Henry A. Fiske's** remarkable address on our 50th anniversary? Henry was our historian and secretary for a generation and his genius is evident in the story. The discussion was intense and animated and was augmented by the contributions of the daughters of our members, who came as guests. . . . Here is a sample of what you might stumble onto in the records: the last page of the secretary's report for the year 1903 contains the familiar phrase: "Yes, and what to do with our records?" Part of the report reads:

"Mr. (Walter B.) Trowbridge is chairman of the building committee of the United Shoe Machinery Company and is looking into the matter of turbine power for the new plants about to be erected. He is also looking into the matter of having the buildings built entirely of cement, which brought up some chemical problems upon which Mr. (Salmon W.) Wilder enlightened the audience. The interest seemed to be general during the dinner and discussions and all appeared to have a most enjoyable evening." Then follows the treasurer's report: "Receipts, \$409.40. Expenditures, \$345.43. Balance on hand, \$63.97. May 1, 1903, **Charles Garrison**, Secretary-Treasurer." . . . And now, dear fellows, keep me in mind and let me know of any news which should appear in the December issue of *The Review*.—**William Channing Brown**, Secretary, 36 Foster Street, Littleton, Mass.

'92

It is my sad duty to report the death of **Edward C. Scofield**, '03, who died at the age of 83. Following is a story on his career: "Born January 16, 1879, in Stamford, he was the son of Walter K. and Mary Candee Scofield. A retired marine architect, he still pursued his profession on a limited basis. Mr. Scofield was a naval architect for the Navy Department during World War I. After the war, he worked for the Elco Board Company, Bayonne, N.J., the Great Lakes Shipbuilding Company, the Philadelphia Navy Yard, and the Newport News Shipbuilding Company. He was a graduate

Happy Birthday

Congratulations were in order during October and November for an alumnus who has just celebrated his 95th birthday; an alumnus who has just turned 90; and 14 and 21 Alumni who have turned or are about to turn, respectively, 85 and 80, as listed below with dates of birth:

October, 1867—**CADWALLADER L. WASHBURN**, '93, on the 31st.

October, 1872—**EDWARD PAGE**, '93, on the 10th.

October, 1877—**LAWRIE H. TURNER**, '99, on the 5th; **AUGUSTUS H. EUSTIS**, '03, Mrs. **ELIZA N. ROGERS**, '05, and **HERVEY J. SKINNER**, '99, on the 7th; **CHARLES S. GASKILL**, '99, on the 11th; **LOUIS H. ASBURY**, '04, on the 15th; **EDWIN W. JAMES**, '07, and **WILLIAM A. KINSMAN**, '99, on the 17th; **EDWARD S. CHAPIN**, '98, on the 22nd; and **HUMPHREYS MILLIKEN**, '02, on the 27th.

November, 1877—**GEORGE H. MEAD**, '00, on the 5th; **EDWIN KUTTROFF**, '98, on the 10th; **JOSEPH A. GUND**, '01, on the 19th; and **CHAUNCEY P. MANNING**, '02, on the 26th.

October, 1882—**EDGERTON M. BETTINGTON**, '09, on the 1st; **BURKETT S. CLAYTON**, '08, on the 6th; **FAY W. LIBBEY**, '06, on the 11th; **FREDERICK M. EATON**, '05, on the 15th; **WALTER B. CAIN**, '05, on the 20th; **MRS. HAROLD F. TOMPSON**, '05, on the 22nd; **GEORGE M. BATES**, '04, on the 24th; **EDWARD L. DAVIS**, '05, on the 25th; **AMASA M. HOLCOMBE**, '04, on the 27th, **J. EARL CUNNINGHAM**, '04, and **JESSE E. JAMES**, '10, on the 31st.

NOVEMBER, 1882—**MRS. RUDOLPH J. THANISCH**, '06, on the 16th; **ERWIN F. BENDER**, '05, and **MILTON LATHAM**, '06, on the 18th; **FREDERICK V. E. JOHANSSON**, '05, and **CLIFFORD R. WILFLEY**, '06, on the 19th; **ALPHONSUS O'FARRELL**, '06, on the 20th; **EDWIN B. BARTLETT**, '06, on the 25th; and **JOAO M. MACHADO**, '05, **CALVIN R. SHEAFE**, '04, and **JAMES S. SHEAFE**, '03, on the 29th.

of Stamford High School and Massachusetts Institute of Technology. Mr. Scofield was a member of First Congregational Church and the Men's Club of that church, a member of the Leisure Time Men's Club, and the American Association of Naval Architects, and a former member of the Loyal Legion, made up of civilian Navy Department employees. Surviving are a son, **Edward A. Scofield**, and two grandsons, **Edward A. Scofield, Jr.**, and **Richard D. Scofield**, all of Stamford." . . . The secretary was the only member of the class present at the Alumni Day dinner last June.—**Charles E. Fuller**, Secretary, P.O. Box 144, Wellesley 81, Mass.

'95

Our "M.I.T. Eighty-Plus Club" is still holding on, except for the loss of one member, **Ralph R. Lawrence**, who died last March 13. This gives us 15 members at this writing, September 14, all in as good health as can be expected at our

age. . . . **Luther Conant**, formerly at 46 Shepard Street, Cambridge 38, Mass., whose wife died last month, has just given up his apartment there and gone to live with his son, at Westport, Conn. Luther is one of the authorities on the participation of employees in a firm's future by retirement benefits. One of the firms he worked with was Bemis Brothers Bag Company, of which Albert Farwell Bemis, '93, was a member. . . . In accordance with our constitution a class meeting was held last June after the M.I.T. Alumni Day Luncheon under the tents in the DuPont Court by the Charles River. **Alfred P. Sloan, Jr.** was re-elected president.—**Andrew D. Fuller**, Assistant Secretary, 120 Tremont Street, Boston, Mass.

'96

The '96 numerals were the oldest on the table at the Alumni dinner in Rockwell Cage; the secretary was the only member present. The Alumni luncheon was attended by **Bob** and **Mrs. Davis**; **Mrs. Hattie Campbell** and guest and **Driscoll** and his daughter, **Clare**; across the table were **Andrew Fuller**, '95, and his son; and **J. L. Damon**, '91, and his son. At dinner at the Country Club, the '91 class had 11, of whom four were members of their class. . . . **Myron Pierce's** absence from the Alumni Day luncheon was due to a tour of Britain he was making after a week in London. Outstanding was a cruise around Plymouth harbor and up the River Plym, to Kew Gardens on the Thames, Balmoral and the surrounding highlands with the gorse and heather, Edinburgh Castle, Warwick Castle, and a performance of "Mid-summer Night's Dream" at Stratford-on-Avon. He saw little evidence of the Nazi bombing, since many new buildings have risen from the rubble. The Garden City Movement in connection with industry is flourishing; British citizens seemed prosperous and in good spirits. He came home in seven-and-a-half hours.

Fred Brown died at Fort Wayne on May 11. When he went to work for the Fort Wayne Electric Works in 1905, he never expected that that city would be his permanent home; however, he enjoyed living there, and after his employment with the Electric Works, he went with General Electric and stayed until his retirement in 1932. He made several trips, to New England; Hot Springs, Ark.; the Black Hills in South Dakota and to Cuba for General Electric. His widow is a distant cousin of Dr. Gorgas, who was instrumental in the Yellow Fever suppression and whom the secretary had met at dinner in Havana, as she learned at a reception tendered the Doctor by the doctors of Minneapolis.

Our class was represented at the Fourth Alumni Officers' Conference in Cambridge; Faculty members explained the present trend in engineering education and scientific research. "Masers" were explained by Dr. Townes and their instantaneous light demonstrated. President and Mrs. Stratton, aided by Alumni

officers, received us at their home. After cocktail hour was a buffet dinner at Walker, at which the President gave us a most candid, off-the-cuff talk. There was a luncheon at the Faculty Club where Van Bush spoke on culture, after which buses took us on a tour of the new construction on both sides of Massachusetts Avenue. Some of the buildings required 138-foot piles. They were driven with the convectional hammers. Waiting for my daughter at Harvard in June, I had seen the sonic pile driver sink a pile in a minute; the earth was sand between 40 and 60 feet deep. The M.I.T. superintendent of construction simply said they had not used the sonic. At Harvard the famous glass flowers might have been damaged by pile driver hammers.—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.; **Henry R. Hedge**, Assistant Secretary, 159 Rockwood Street, Brookline, Mass.

'97

It was my intention to quote for you some of the replies received concerning our 65th Reunion, which was to be held on June 11; however, contact between my car and a concrete post on August 8 has resulted in a broken leg for your secretary, which has somewhat restricted my activities.

As it turned out, two members of the class—**Will Binley** and **Charles Currier**—expected to be at the reunion, but the last word was that Will had to "reunion" by himself. . . . As no one has volunteered to serve as secretary-treasurer of the class, this must serve for class notes for the time. A month from now I'll try to do better.—**George R. Wadleigh**, Class Agent, 70 Flower Avenue, Hastings-on-Hudson, N. Y.

'98

Get ready, if possible, to come this way, on Alumni Day, June, 1963, for '98's 65th Reunion. . . . We were much encouraged by the attendance of '98 and representatives on Alumni Day last June 11, and by the response to President **Edgerly's** Class Letter #27. There were present at the '98 luncheon table on June 11: Mrs. Arthur A. Blanchard, Edward S. and Marion L. Chapin, Fred B. Dawes, Dr. George and Mrs. Harrison, Frederic A. Jones and Audrey and Robert, and Professor Joseph C. Riley—10 representatives. These '98 representatives all expect to be at the Alumni Day Luncheon in 1963 at our 65th Reunion. In addition, we have received, by letter or otherwise, promises of attendance next June from Roger and Mrs. Babson, Al Davis, Daniel W. Edgerly, David C. Fenner, Professor and Mrs. Holden Furber, Robert Lacy; thus eight in all, making a total of 18 promised attendance next June. In addition, of course, there will be others in response to circularization from the Class Committee during the coming months. We have received vague

promises from others but we have only counted those who have definitely promised. So "98 this way," the old class yell, for the 65th Reunion! More anon.

The secretary has been somewhat under the weather since the middle of August, when ordinarily, copy for the '98 November Class News is sent to The Review. Hence, it will be necessary to refrain from writing up various interesting bits of news which are available until later issues of The Review. . . . Changes of address are, however, herewith included: **Ira M. Chace, Jr.**, 60 De Wolf Street, New Bedford, Mass.; **Edward S. Chapin**, 271 Dartmouth Street, Boston 16, Mass.; **Howard B. Collins**, c/o D. P. Waring, Apt. 402, 1080 Sherman Avenue, Denver 6, Colo.; **David C. Fenner**, P.O. Box 408, North Falmouth, Mass.; Professor **Arthur L. Goodrich**, 297 Minnihaha Ramon Trailer Park, Palm Springs, Calif.; **Mrs. Louis Poutasse**, Orleans, Mass.; Dr. **M. De Kay Thompson**, c/o Mrs. Grenville Goodwin, Sarles Street, Mt. Kisco, N.Y. . . . All best to the boys and girls of '98, and here's hoping that we may all meet together next June.—**Edward S. Chapin**, Secretary, 271 Dartmouth Street, Boston 16, Mass.; **Frederic A. Jones**, Assistant Secretary, 286 Chestnut Hill Avenue, Brighton 35, Mass.

'99

Samuel B. Robertson died July 2, 1962, at Lynchburg, Va. . . . **George H. Priest** was born May 16, 1877, and died May 2, 1962. After graduation George worked as a gas engineer with several companies including eight years with Stone & Webster; from May 1, 1916, to his retirement on Jan. 1, 1939, he was vice-president and manager of the Brockton Gas Company. He was a charter member and past president of the Brockton Rotary Club; trustee of the Brockton Hospital; and an officer of the Family Welfare and Community Fund. He also engaged in bird banding for the U.S. government in connection with a study of the migratory habits of birds. On his 550-acre ranch in Brattleboro, Vt., he owned the largest herd of Aberdeen-Angus cattle east of the Mississippi and the first "dude" ranch in the East. . . . **Harry S. Mork** died July 11, 1962. After graduation Harry was with Arthur D. Little and Company for 20 years; before his retirement he was an insurance broker with John C. Paige and Company. He leaves his widow, two children and three grandchildren.

Norman P. Rood retired from an active career as an architect on August 15, 1962, at the age of 86. We remember the delightful sketches that Norman drew for our early class notices. A line to him at Ave. Constituyentes 968, Mexico City 10 D.F., Mexico would be appreciated. . . . A card from **Norman E. Seavey** from Oslo, Norway, says he and Mrs. Seavey were feeling fine and enjoying their trip. . . . On Alumni Day on June 11, 1962, Carroll W. Brown, Mr. and Mrs. Hervey J. Skinner, Mr. and Mrs.

William A. Kinsman, Miles S. Sherrill and Percy W. Withereil talked over old times at Boston Tech. . . . **Percy Withereil** attended the M.I.T. summer session on Radio Astronomy in July, the American Astronomical Society meeting at Yale in August, and the A.O.C. in September. . . . **Tim Kinsman** and **Miles Sherrill** also walked all over the campus with me. Miles plans to go to France for nine months. . . . As of September 10, 1962, the class had 25 members who received degrees and 28 special students, one 97 years old and two living outside the country. The secretary, after living in the same house for 50 years, has moved to new quarters added to the home of his son (Richard H. Withereil, '49)—at the new address below—**Percy W. Withereil**, 1162 West Street, Wrentham, Mass. (Telephone 11 E V 4-3164.)

'00

Each year from 1950 to 1958 we held a reunion at The Pines in Cotuit on Cape Cod. Although not largely attended, these were exceedingly pleasant affairs and we became very friendly with our host, Calvin Crawford, owner and proprietor of The Pines, and also with Mrs. Crawford and Mrs. Given, hostess. This year Mr. and Mrs. Crawford kindly invited all of us who could come to a luncheon at their home in Cotuit. This was held on June 5 and attended by four of the class: Stan Fitch, Alek Newhall, Jim Patch, and Elbert Allen; and three guests, Alice Newhall, Harriet Patch and Minnie Lawley. These, together with Mr. and Mrs. Crawford and Mrs. Given, made up a very congenial party of 10. Although the day turned out to be one of two rainy days in a long spell of fine weather, the reunion was greatly enjoyed by all. We drove down in the forenoon, arriving in Cotuit about noon. After a period of visitation, Mrs. Crawford served a very bounteous and delicious luncheon, buffet style, at small tables in the living room. We returned home in the late afternoon feeling exceedingly grateful to the Crawfords. . . . Alumni Day was celebrated in the usual fashion by the faithful few, including Stan Fitch, Alek Newhall, Charlie Smith, Percy Ziegler and Elbert Allen, together with Alice Newhall, Minnie Lawley and Elsie Smith. There must be others of our remaining 50 members, 19 of whom live within a reasonable distance from Cambridge who would enjoy these reunions if they only realized it. . . . We have received word of the death on May 12, 1962, of **Clara I. Durgin**. Miss Durgin was a graduate from Course V and was with us all four years. For many years after graduation she was a biologist with the Massachusetts State Board of Health. From 1946 to 1948 she was connected with the Department of Food Technology at M.I.T. She attended graduation exercises with us at our 50th Reunion in 1950.—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton 65, Mass.

Deceased

HORACE L. BRAND, '91, May 2
 FREDERICK H. MESERVE, '92, June 25
 JOSHUA T. DANIELL, '93, Nov. 24
 CHARLES M. TAYLOR, '93, 1961
 FERDINAND A. SCHIERTZ, '94, June 14
 JOHN E. WRAY, '94, Nov. 28
 JAMES A. GUTTRIDGE, '97, May 19
 EDWIN P. OSGOOD, '97, March 20
 CHARLES H. POPE, '97, Jan. 6
 HENRY R. VAHLKAMP, '97, Sept. 27, 1961
 MRS. JOSEPH A. WELLS, '97
 HARRY S. MORK, '99, July 11*
 GEORGE H. PRIEST, '99, May 2*
 SAMUEL B. ROBERTSON, '99, May 2*
 MISS CLARA I. DURGIN, '00, May 12*
 SHELDON D. GRAFF, '00, Nov. 12
 HARRY R. HEALEY, '01, March 22*
 JOHN T. SCULLY, '01, 1961*
 ROBERT F. WHITNEY, '02, Aug. 19*
 MRS. ARTHUR A. BLUNT, '03, July 28
 OLIVER P. SCUDDER, '03, Oct. 24, 1961*
 HERBERT B. SMITH, '03, May 17*
 EDWARD A. BARRIER, '05, June 20*
 JOHN F. H. DOUGLAS, '05, June 17*
 FREDERICK M. EATON, '05, Aug. 15*
 BERTRAND L. JOHNSON, '05, Aug. 16*
 CARLTON H. MANTER, '05, May 20, 1961*
 VICENTE MOLINA, '05, July 18, 1961
 HENRY E. DARLING, '06, July 12*
 THOMAS L. HINCKLEY, '06, Sept. 7*
 ABRAHAM L. LAMPIE, '06, Sept. 9*
 HENRY L. OAKS, '06*
 WILLIAM M. VAN AMRINGE, '06, July 14, 1961*
 PERRY A. VAUGHAN, '06, 1961*
 MRS. ARTHUR W. HARTT, '07, Nov. 27, 1961*
 FITCH H. HASKELL, '07, May 20*
 LEONARD S. GEROULD, '08, Feb. 23*
 SAMUEL F. HATCH, '08, June 26*
 ROY W. NORTON, '08, Nov. 27, 1961*
 EDGAR P. SLACK, '08, Aug. 5*
 CHARLES A. BACHELDER, '09, Sept. 5, 1961
 KARL D. GODFREY, '09, May 18
 BURR A. ROBINSON, '09, Feb. 8
 ORRIN J. CROMMETT, '10, May 26*
 HAROLD N. CUMMINGS, '10*

RALPH J. HALEY, '10, Dec. 19*
 WILLIAM H. MARCH, '10, May 27*
 ROBERT F. MAXCY, '10, June 15*
 AUGUSTUS B. MERRY, '10, June 19*
 OTTO R. RIETSCHEIN, '10, Aug. 26*
 HARRY A. LEWIS, '11, Oct. 30, 1961*
 WILLIAM J. ORCHARD, '11, July 6*
 RUBEN CASTRO-BEECHE, '19
 WALTER F. O'BRIEN, '12
 RICARDO L. PACHECO, '12
 CHARLES P. PERRINE, '12, May 18
 GEORGE W. RAPELLI-OLIVER, '12
 PHILIP T. REDFERN, '12, Aug. 7
 PAO-TUNG TONG, '12
 THOMAS S. BYRNE, '13, May 24*
 EDWIN E. CORBETT, '13
 GEORGE S. DARLING, '13, Aug. 4*
 RALPH M. TORREY, '13, July 20
 PABLO BEOLA, '14, April 17*
 JOHN P. BURDICK, '14, Aug. 11*
 WELTON A. SNOW, '14, June 29*
 JAMES M. WHITE, '14, April 4*
 CHARLES A. CALDERARA, '15, April 21
 JOHN H. PRENTISS, '15
 OTTO E. STRAHLMANN, '15, March 23
 ERNEST C. GAGNON, '16, April 13
 JOHN E. WOODS, '16, June 23*
 CHARLES H. WOOLLEY, '16, June 16*
 FRANCIS V. DUPONT, '17, May 20*
 DANIEL J. HENLY, '17
 DONALD N. SWAIN, '17, July 26*
 WALTER B. STRONG, '17, Aug.*
 FRANK W. CARY, '18, May 8*
 EDWIN M. McNALLY, '18, March 28*
 TAKANAGA MITSUI, '18, Feb. 11*
 MINNA M. ROHN, '18, Nov. 24*
 MRS. FORREST S. EMERY, '19, Oct., 1961
 ARTHUR M. O'CONNOR, '19
 KENNETH AKERS, '20, June 25
 EDWARD J. COUGLIN, '20, Aug. 12*
 EDWARD S. FARROW, '20, Aug. 9*
 CARL T. LEANDER, '20, May 25
 WARREN K. RUSSELL, '20, Aug. 12
 PHILIP F. BREEN, '21, Jan. 7*
 AMBROSE L. KERRIGAN, '21, Aug. 8*
 EDGERTON MERRILL, '21*
 WILLIAM G. MAYER, '22, July 23, 1961
 WILLIAM J. MILLER, '22, March 20
 IAN H. PARSONS, '22, Dec. 14
 MALCOLM K. SHEPPARD, '22, June
 LEONARD J. BROOKS, '23, June 8*

EDWARD J. DANEHY, '23, July 7*
 WALLACE R. DOWD, '23, April 22*
 H. JAMES KERR, '23, Dec. 23*
 CHARLES R. MYERS, 2d, '23, May 3*
 ELKONO HONIGMAN, '24, July 23*
 CALVIN F. REED, '24*
 HUBERT G. RIPLEY, JR., '24, Dec. 25, 1960*
 HERACLIO ALFARO, '25, Aug. 10
 ROGER G. BUZZELL, '25, Feb. 24*
 HENRY V. CUNNINGHAM, JR., '25, May 1
 ROBERT F. POND, '25, June 22*
 GABRIEL E. ROUSSEAU, '25, July*
 GEORGE H. SIMONSON, '25, April 20*
 HERBERT H. TAYLOR, JR., '25, April 25*
 KENNETH K. AYER, '26, Oct. 1961
 WILLIAM C. WILDER, '26, June 11
 JAMES R. COE, JR., '28
 LESTER A. FORSYTH, '28, Jan.*
 PROCTER P. WILSON, '28, March 28*
 DAVID E. BENNETT, JR., '31, Jan. 31*
 J. RAYMOND BIRD, '31, July 1*
 HUGO G. CUESTA MORENO, '31*
 JAMES R. DAY, '31, July 28*
 FERNANDO ROYO, '31*
 CHARLES W. CROSSLAND, '32, Feb.*
 J. ROBERT MCCAA, '32, May 29*
 MORRIS L. BROWN, '33, Sept. 26, 1961
 FREDERICK L. KILBOURNE, JR., '34, May 24*
 KENNETH MCKAY, '35, Nov. 21
 HOLBROOK B. SMITH, '35, Feb. 12
 DAVID N. TRUSCOTT, '35
 CHARLES F. GILMAN, '38, Dec. 16*
 WILLIAM LOVELAND, '38, May 1*
 HARRY WEXLER, '39, Aug. 11*
 JOHN H. MCGUIGNAN, '40, June 17*
 MONROE L. NORDEN, '41, June 16
 ROBERT T. GAGE, '42, May 7*
 JOHN A. YOUTZ, '46, 1960
 ARTHUR M. ROSS, '47, 1961
 ROLAND J. BARRIAULT, '49, June 19*
 HOWARD W. CHRISTOPHER, '49, Aug. 6*
 FRANCIS L. FRIEDMAN, '49, Aug. 4*
 FRANK G. RANDALL, '50, April
 GERALD E. MONSALVATGE, '51, Jan. 6
 RICHARD R. SODERLIND, '53, Jan. 14
 HOWARD C. TABB, '54, Aug. 6*
 LAWRENCE H. CRAMER, '57, June 30*
 JAMES J. MCGEE, '60, Aug. 3*
 *Further information in Class News.

'01

I regret starting this year's notes with the report of the death of **Harry R. Healey** in March, 1962, and also that of **Jack Scully**. The notice of Jack's death came through the Alumni Office and simply said that he died in 1961. I have no further information and if anyone can furnish more details I shall be glad to give them to the class. . . . I quote from a letter from **Willard Dow**: "A day or so ago the son of an old tennis partner of mine accosted me on the street. He asked, 'How is your squash game?' I replied, 'Fine. I played the best game of my career yesterday and beat the pro 3-1. He said 'When you get to be 90 you should be pretty good.' I agreed. At the present moment, however, I have slowed down. I've got a housemaid's knee, and it doesn't respond to soaking quite as promptly as it used to. I'm giving it a complete rest over the weekend, writing

to you in answer to your urgent appeal for material for the class notes. Last summer I was doing an insurance job in Portland, Maine, and hunted up **Ed Belcher** in South Portland. We had a delightful afternoon together reminiscing about Malden High School and Technology. He does a brisk business buying, selling and repairing antique timepieces."

Bob Derby, our Class President, wrote me in May. He said: "I have just returned from three months of travel and will give you a short sketch of my movements in case you care to condense it for future class notes." He feels that in the past he has occupied more than his share of space in the notes, I think, however, that we are all interested in his travels. He left on January 15, crossed the Atlantic, stopped at Palma, Majorca, Naples and Capri. Stopping at Alexandria, he went through the Suez Canal and Red Sea arriving finally at Aden, Arabia; then on to Bombay. In India he went inland for almost a week, visiting New Delhi, Aggra and Jaipur, where he

rode to Fort Amber on an elephant. In India he was most impressed with the terrific population. He then went on to Ceylon and Madras. "Before reaching Singapore we stopped for a date at Penag, as it is pretty much unspoiled, which is true of very few places. Hong Kong was next, then 10 days in Japan. The country is prosperous but there is a good deal of inflation. We came back by Los Angeles and the Panama Canal." . . . I noticed in a recent Boston paper the death of **Roland Simond's** wife and in the paper of September 4 the death of **Bob Derby's** son. The class expresses sympathy to both of these classmates. I hope more will send in material for class notes. —**Theodore H. Taft**, Secretary, Box 124, Jaffrey, N.H.

'02

Our 60th Reunion very fortunately came during the few beautiful days that the Boston area has had this season. The

reunion started off well on June 8 with a gathering at the University Club. Arthur L. and Mrs. Collier; Harold and Mrs. Everett; Charles and Mrs. Kellogg; John Marvin; Lewis Moore and son; J. Albert Robinson; and Royal and Mrs. Wales, elected to stay at the Club while Dan Patch stayed at Burton House. Classmates arrived at various times but by evening were well acquainted. True to form, they went to the Museum of Science for their evening dinner and had excellent food in a slightly spot. Saturday forenoon was an on your own program. Several, including **Ben McKechnie** with his son and daughter-in-law who arrived that morning, took a sight-seeing bus to view historic Boston, while others went their various ways, some shopping, some looking around the area where M.I.T. was in 1902 and others sitting in the lounge to reminisce.

The Class Dinner was scheduled for Saturday evening at the club; several classmates who could not attend earlier events arrived to swell our numbers to 22, of whom 14 were class members and 8 guests. Those in attendance were Ambrose Bourneuf; the Colliers; the Everetts and their guest, Professor Joseph C. Riley, '98; the Kelloggs; Chauncey Manning; Marvin; Herbert, Mrs. May and their son; McKechnie; Moore; the Nelsons; Patch; Philbrick; Robinson; and the Wales. The food was excellent and commanded the attention of those present; class affairs were forgotten until **Lew Moore** reminded us that a class meeting was in order. The secretary read the minutes of the 1957 meeting at Wentworth and the treasurer reported that the class was still solvent and had a small balance in the bank. The reports were accepted and the election of officers taken up. **Charles Kellogg** was elected president unanimously. The other offices were passed over and the incumbents will remain until 1967. So send news to the old address. . . . A telegram was received during the dinner from **Kenneth C. Grant** in Los Angeles, sending his greetings and congratulations to all present and expressing the wish that he were with us. Token prizes were given to the two members present coming from the farthest distance to attend; they were, **John Marvin**, Colorado, and **Benjamin McKechnie**, New Mexico. The dinner and meeting ended about nine, leaving time for more mixing with old friends.

Sunday was a beautiful day and well suited for the outing at the Tedesco Country Club in Marblehead which had been arranged by the Colliers. We were given a large section of the house for our use and as a setting for our dinner later. Those of the class who were at the University Club and **Chauncey Manning** and **Dan Patch** came down by chartered bus, arrived about 1:30 P.M. and joined the strays already there. After a prolonged sunning on the open veranda where cocktails were available for the thirsty, we sat down to dinner 16 in number—Bourneuf, the Colliers and Arthur's nephew and wife, the Everetts, Marvin, Moore, Manning, McKechnie, the Nelsons, Patch, Philbrick, and Robinson. After a leisurely dinner we ad-

joined to the veranda of the Eastern Yacht Club which overlooks Marblehead Harbor which was filled with small racing boats. It was a beautiful sight and gave the Course XIII men a chance to size up the yachts, etc. About as we were leaving, The Nefertiti, the 12-meter prospective America's Cup defender, came in the harbor up to its mooring under her own sail, a beautiful sight. The group then took the bus and returned to Boston. In the evening a showing was given of a series of slides based on a trip through the Caribbean area and the west coast of South America taken by **John Marvin**.

On Alumni Day, pleasant weather continued, and the luncheon under the big tent in DuPont Court was well attended. Two additional '02 men showed up—**George E. T. Eagar** and **James J. Mahar**—and 17 sat down at our table. There was no fixed program for the afternoon. The Everetts and their friends left after the luncheon, and Philbrick departed in the late afternoon. The others attended the banquet in the evening with Moore's son as his father's guest.

Robert F. Whitney, Course II, died in Winchester on August 19, 1962. Whitney was interested in tanning machinery throughout his career and at the time of his retirement was mechanical engineer with the Turner Tanning Machinery Company in Peabody, Mass. He was a widower at the time of his death.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

'03

Your secretary extends his earnest felicitations to all classmates for their jovial and restful sojourns during the summer period. Our members should therefore strive to return this coming June with added incentive for our 60th Reunion. You may roam about the extensive campus of the present M.I.T., so remote from the former atmosphere of Boylston Street. We may not accomplish the elaborate program of our 50th, produced through the boundless efforts and generous hospitality of the late, much endeared **Fred Eustis** and **Carlton Green**; however, this is an epoch in our waning years which we as devoted members and M.I.T. Alumni should strive to enjoy to the fullest. . . . Your secretary was recently much impressed at a Harvard Commencement to witness their annual gathering of Alumni in the Old Yard before the exercises. Hat bands and class badges differentiated the classes and the assembled group marched past the watching student body to their reserved section for the Commencement exercises. This dramatic custom, if adopted by M.I.T., would add even more splendor to the exercises and act as an added incentive for the oldest Alumni to attend and represent their respective classes to the undergraduates.

Our list of 80 and 85 "Happy Birthday" members has already been noted in the March Review; **Carl T. Bilyea**, IV, recorded his 85th on April 18 and **R. C. Jordan**, Sr., II, recorded his 80th on

April 25 along with **Walter P. Regestein**, V, who reached 80 on June 20. . . . **Paul R. Parker**, XIII, has a new address at Monhegan, Maine; **Daniel C. Picard**, V, is now at Route I, Box 245, Stuart, Fla. . . . **Herbert E. Smith**, II, died May 17, 1962, and **Oliver P. Scudder**, XIII, passed away on October 24, 1961.

A more exhaustive note about the interesting career of **James W. Walsh**, VI, was received. Jim was a regular attendant, with his enthusiastic wife, at our Commencement table. After graduation he worked in San Francisco as a director assisting in defense transportation during World War I. After a period of semi-retirement as a consulting engineer, he strove for more activity and became associated with Ford, Bacon and Davis Inc., engineers, of New York. This work involved intricate transportation problems concerned with street railways, motor buses and general traffic problems. He had the unique experience of occupying the witness stand for three months, testifying in the dual capacity of participant and expert. In this case, the holding company was being questioned as to its impartiality in relation to other security holders in its management of a subsidiary operating company with which he had been associated 30 years. The case was settled out of court, but he believed no mismanagement was shown. Traffic problems of the metropolis fell to his lot, including questions of terminals for buses. Traffic surveys and zone fares for intercity buses were also in the picture. Part of this period was spent in Canada testifying as to the efficiency and obsolescence of street railway operations. A number of cases involved the expediency of abandoning street railway properties and substituting buses. This involved certifying, as an independent engineer, that the trustee would be justified in the abandonment of a once valuable asset pledged as security under the mortgage. His trips were made with his family to many cities, and he found hotel life a pleasant diversion from the quiet seclusion of his former country home. Because of his travel, he had the opportunity of living in various parts of the country. From this he developed the avocation of purchasing old homesteads, well-located but somewhat rundown, remodeling them with modern facilities and then selling at a profit. A rising real estate market also helped. After a long and interesting career in engineering, he has ultimately retired. He has two children and five grandchildren.

Howard S. Morse, I, has received recognition. From an article in the Indianapolis Times of June, 1962, we note that his son has been named president of the Indianapolis Water Company, thus continuing the beneficial association of the family and the company. Previous to that, he was executive vice-president and his father, Howard, headed the water operation for many successful years. Father and son are held in the highest regard by all who know them. Daniel is a director of Park Fletcher Industrial Development, Capitol City Investment Company, Inc. and American Fidelity Corporation as well as being

president of the Indianapolis Travelers' Aid Society and vice-president of the Rotary Club and the American Business Club.

Caspar A. Schmidt, III, died on June 26 at La Jolla, Calif. He was born in Detroit, Mich., January 6, 1877. After graduation from M.I.T. in '03 in Mining engineering and metallurgy, he spent four years in this field in South America. When he returned to the United States, he became associated with the New Jersey Zinc Company which sent him to Monterrey, Mexico, as assistant to Robert Hursh, '06, for four years. He was then transferred to Hanover, N.M., to develop a subsidiary of the New Jersey Zinc Company. Because of his ability to speak Spanish, he became a great asset to the Southwest mining properties where he translated a "Safety Rules Book" into Spanish. In 1918, he was transferred to Denver, Colo., where he was assigned as assistant to Russell Paul, Western Supervisor of Mines. After the Armistice, he was transferred by the company back to Hanover where he operated the Empire Zinc Mines until his retirement. He leaves a wife, Katherine and a daughter, Joan, who is engaged in orthopedic research at the University of Washington faculty in Seattle.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 131 State Street, Boston, Mass.

'04

The approach of the September 15 deadline for notes to be published in the November issue of *The Review* has prompted your secretary to get busy. As usual the news items are somewhat stale and one in particular is not only old but very unpleasant reporting. Just too late for inclusion in the July Review we received via the Alumni office copy of a letter from **Currier Lang's** daughter stating that our good president had been in the Norwalk, Conn., hospital since January because of a paralytic stroke which affected one side and prevented speech. They were planning to take him home soon where he would be happier. Our class officers were notified but this is the first general notice. Some of you may wish to send Currier a note even though he will be unable to reply. His address is Bettswood Road, Norwalk, Conn.

Aside from your secretary and his wife there were only five classmates present on Alumni Day at M.I.T. They were Harry Kendall, Tammy Rockwood, Gene Russell, Arthur Smith and Stan Skowronski. It was a beautiful day and we had a pleasant time. . . . An item of important news which came too late to include in the July notes was the commencement bulletin that the hitherto anonymous donor of over two million dollars for the women's dormitory was none other than our classmate Mrs. **Katherine Dexter McCormick**. We are indeed proud to have a classmate who is both able and willing to make such a generous gift. This dormitory is greatly needed at M.I.T. and its construction is well under-

way. . . . When the notes for the May Review were prepared there was no news to record so we told of the changes which had taken place in the vicinity of "Tech on Boylston Street" since 1904. Strange to say this issue received more favorable comment than most others. One of the letters was from Katherine McCormick, part of which is as follows: "Your '04 report in the May Technology Review was so delightful that I want to thank you for it. The description you gave of the old-time appearance of Copley Square especially appealed to me as I was studying at Tech during those years. You do not mention Pierce Building by name but I thought that the reference to the Westminster Hotel indicated the building I knew as Pierce. I knew it very well as the Biology Department (Course VII) was located there with Professor Percy G. Stiles' ('97) physiology lab and Professor Samuel Prescott's ('94) bacteriology lab on the second floor; the Architecture Department on the top floors, the Margaret Cheney Room on the second, and Mrs. King's luncheon restaurant in the basement. I used frequently to see Architecture's Professor Desire Despradelle (nicknamed Desperate Bill) going and coming on the stairs of that building as I did my thesis (amphibian musculature) in the biology laboratory there. Also I well remember the memorial dinner to Professor William T. Sedgwick that took place in Pierce in 1905 because as one of the speakers I was able to voice in small part my great gratitude to Professor Sedgwick for all he had done for me as a student. It was sad to see the Art Museum leave Copley Square as with it went the hopes that the original plans for the square might be fulfilled. And it was especially hard to have Walker Building go, with all its associations of the Physics Department (Professor Cross) and of the organic and inorganic chemistry labs with Sanitary Engineering under Professor and Mrs. Richards. Of course the move to Cambridge was wonderful; however, one may and does rebel against having a Cambridge address for what will always be 'Boston Tech!'"

An item recently appeared in the Boston papers announcing the sale of property by the MacLachlen estate. The site is to be cleared and a modern Mercantile Building erected. This site is none other than the location of the former store of "Andy Mac" opposite Rogers Building where many a dollar from M.I.T. students was spent in our day for various books and supplies. . . . You may know that the site of the old M.I.T. field house at the edge of the Boston and Albany railroad yards is included in the big Prudential Insurance Company development, the biggest building project in Boston for many years. The Massachusetts Turnpike, which is being extended into Boston through this site, will cause changes which will make this section of the city unrecognizable. . . . In the July notes it was suggested that you drop us a card regarding your summer travels for mention in the November edition (deadline for manuscript September 15). At present writing, the results are non-existent.

We will mention, however, that your treasurer and his wife spent two weeks in New Hampshire and your secretary with wife journeyed to Nova Scotia. Just for the record, we will record that all travel was at personal expense. The anemic class treasury balance is still intact.

Just in time for inclusion in these notes a word of greeting has come from **Currier Lang** via his daughter, Mrs. J. R. Reid. She also gives the following information which supplements the statement made earlier in these notes. After five months in the hospital he came home in June and is much more contented there. Since he cannot talk so as to be understood and cannot move his right arm and leg, his activities are limited to watching television and taking short trips in a wheel chair. However, his nurses are very devoted, his food is prepared by his beloved cook of many years standing, and he is not in pain—so life is bearable, although dull! He gets a great deal of pleasure from letters and visits from friends and relatives.—**Carle R. Hayward**, Secretary, Room 35-304, M.I.T., Cambridge 39, Mass.; **Eugene H. Russell, Jr.**, Treasurer, 82 Devonshire Street, Boston 9, Mass.

'05

As usual our attendance at the Alumni Day luncheon last spring was larger than that of any class within five years of us either way. We had 22, including wives; namely, Court and Elizabeth Babcock; Len and Beatrice Cronkhite; Andy and Frances Fisher with daughter Edith (Hunter), son, Andrew, III, and two grandsons; Myron and Rose Helpert; Izzy and Sarah Nye, Charlie and Mrs. Smart, Henry and Alice Buff, Art Balkam, Herman Gammons, Doc Lewis, Bob McLean and Gilbert Tower, and Ruth and me. . . . **Charlie Smart's** new bride was warmly welcomed and her charm added much to the occasion. In entering her as a new member, I asked what we should call her and she said "Issy"—your guess is as good as mine. The Smarts were to leave for Europe for the month of July and I have received a card from them from somewhere in Norway. **Balkam** reported that **Gil Joslin's** absence was due to his being in the hospital for an operation. Most of us attended a reception in the Chemical Laboratory section, given by **Doc Lewis's** colleagues in celebration of his 80th birthday. Mrs. Lewis received with Doc. Both appeared hale and hearty. Missing were the **Chestermans** and **Hub Kenway**. The Chestermans were surrounded with weddings of grandchildren, etc. **Harry Charlesworth** couldn't be with us as he fell from a ladder while repairing his roof and broke his foot. Incidentally, he visited me here in Sandwich about a month ago. He got around very well with the help of a cane and expected to be ready to go climbing again shortly. . . . Somebody told me that **John Damon** is "raising whippets." Interpret that for yourself.

Right here I shall try to thank those who contributed to a purse (cash and very substantial) presented on the occa-

sion of my 80th birthday, through the efforts of **Bill** and **Peg Ball**. It has to be done collectively as I do not know the donors. Bill must have thought that I had earned a raise during my 27 years as class secretary. I don't like the word earned, because when a fellow loves his job, he gets his recompense from the contacts (personal and by correspondence) which he gets by virtue of said job. I shall call this a paid in advance recompense and hope to be able to continue to serve many years longer. July 8, 1962, will always be remembered. All my children and grandchildren were with me, also three sons-in-law for a total of 17. On the following day a neighbor gave me a semi-civic party and I received 240 birthday cards. I shall never forget that milestone, also the fact that Ruth and I were and are (I think) hale and hearty helped me enjoy it the more.

I have just returned from the Fourth Alumni Officers' Conference of the Alumni Association held in Cambridge September 7 and 8. Since this is probably fully reported in this issue, I'll not attempt a description, but it was very interesting and instructive. Previously **Gilbert Tower** had represented the class, but Elizabeth's mother was having a 100th birthday celebration that weekend and Gib was sort of an M.C. His comment that "she has a sister a year younger, and a cousin across the street 98 years old" reminds me of the old joke about "grandpa's upstairs etc." . . . I trust everyone will read the full story about the mammoth growth of the Institute. I have attended every Alumni Day and make the tours of inspection each year, but I was appalled. Incidentally I met a graduate of last June, who worked this past summer in the office of G. W. C.

Whiting (Whiting-Turner Company) in Baltimore. He reported **George** as in good health and at the office daily. . . . **Andy Fisher** reminds me that I have not commented on a book written by his daughter, Edith Hunter, entitled "Conversations with Children." Guilty. He sent me a book and I have read it, trying to put myself into the age group for which it was principally intended; namely young mothers and teachers of young children. I consider it a fine book and trust it has found its rightful place in the religious education field. Edith also writes regularly for Redbook (see August, 1962) and the Ladies Home Journal (September 1962). Ruth and I scouted around Fryeburg, Maine, a few Sundays ago and located **Percy G. Hill, II**, at his summer home, which as a matter of fact is his birthplace. Both Percy and his wife seemed in good spirits; they were shortly to return to their home in Ridgewood, N.J.

Since the editor of The Review has requested that we go easy on class notes for the November issue (always a big number) I am leaving a number of items for December. I do feel, however, that I should sadly chronicle the passing of some of our classmates. **Carlton H. Manter, IV**, of Taunton, Mass., died there on May 20, 1962. I have no further data on this. . . . **Edward A. Barrier, V**, died very suddenly at his home in

Barnstable, Mass., on June 20, 1962. Since he was a regular attendant at all class functions, it seems unnecessary to tell you what Ed was and did, but for the sake of those who had not had the privilege of recent contact I am quoting from the Cape Cod Standard Times: "Edward A. Barrier, 78, former president and treasurer of the Arkwright Factory Mutual Fire Insurance Company of Boston, died unexpectedly yesterday at his Main Street home here. Born in Cambridge, the son of George and Louisa (Rosseau) Barrier, he was a graduate of M.I.T., Class of 1905. Mr. Barrier retired to the Cape about 14 years ago, but remained as a director of the company for several years. Mr. Barrier was financial adviser to the Cape Cod Council of Boy Scouts for several years. He was a member of the Cambridge Lodge, A.F. and A.M., the Aleppo Temple at Boston, and was a former member of the Hyannis Rotary Club. He leaves his wife, Mrs. Isa M. (Duvey) Barrier, a daughter, Mrs. Richard T. Bassett of Weston; a sister, Miss Georgette Barrier of Hyannis; and a grandson, Donald K. Bassett." I talked with Isa over the phone and later had a letter expressing thanks for flowers sent at the time of the funeral—I quote a bit from this letter: "It was a terrific shock for I found him at six A.M. completely passed away. Thanks to all and fond remembrances." **John F. H. Douglas, VI**, died on June 16, 1962, at Milwaukee, Wis. I am quoting from the Milwaukee Journal: "John F. H. Douglas, 77, professor emeritus of electrical engineering at Marquette University, died of lung congestion and heart failure Saturday at Mount Sinai Hospital. He had been in declining health since he fell in January. He was a brother of Senator Paul Douglas (Dem., Ill.). Professor Douglas joined Marquette's faculty in 1920. He was chairman of the department of electrical engineering from 1944 to 1950. In 1955, he became professor emeritus but continued teaching part time until his accident. In 1959, Professor Douglas received one of the first two citations for teaching excellence from Marquette. In 1949, he was featured as "Engineer of the Month" in the Milwaukee Engineer, a magazine published by the Milwaukee chapter of the Wisconsin Society of Professional Engineers. Professor Douglas' only immediate survivor is the senator. His wife, Florence, died in 1955. She had operated an antique store from their home at 816 N. Cass Street, and helped organize the Antiquarian Society of Wisconsin. After her death, Professor Douglas moved to an apartment at 828 N. 16th Street, within walking distance of Marquette, and was a familiar sight after classes, walking his dog in the area. Born in Bucksport, Maine, he received a bachelor of science degree from Massachusetts Institute of Technology in 1905. He worked a year and-a-half for the General Electric Company, then entered graduate school. He received his doctor of philosophy degree from Cornell University. Before coming to Marquette, he taught engineering at the old Iowa State College and at Texas A. and M. College.

He was instrumental in the organizing of the local chapter of Triangle, an engineering fraternity. He was a member of the American Society of Engineering Education, the American Physical Society, the American Institute of Electrical Engineering and the National Society of Professional Engineers."

Frederick M. Eaton, V, died at his home in Las Vegas, Nev., on August 15, 1962. I have written a note of sympathy to Mrs. Eaton, but to date have nothing further to report. . . . **Bertrand L. Johnson, III**, died at his home in Silver Spring, Md., on August 16, 1962. Bert was a good correspondent and I had heard from him quite regularly telling me of his hospital experiences during the past 10 years. He knew for the past five years that he was dying of cancer, but kept on valiantly. I am quoting from a local newspaper: "Bertrand L. Johnson, 80, a long-time area resident and formerly a mineral economist with the Bureau of Mines, died Thursday of cancer. Born in Boston in 1882, the son of the late George F. Johnson and Lucy Hill Pike Johnson, he was a graduate of Stoneham (Mass.) Public High School and a 1905 graduate of Massachusetts Institute of Technology. Mr. Johnson joined the Geological Survey in 1905, working in several states as well as Alaska. He did some special work with the Geological Survey during World War I, staying with them until 1925, when he joined the Bureau of Mines. From 1937 until his retirement in 1952, he was a mineral economist with the bureau, specializing in the fields of phosphate rock, potash, talc, pyrophyllite and nitrogen compounds. He was a member of the American Institute of Mining Engineers, the Society of Economic Geologists, and the Washington Academy of Science, and was a fellow of the Geological Society of America and the American Association for the Advancement of Science. He was a member of the Woodside Park (Silver Spring) Civic Association. Mr. Johnson was a lateral descendant of Zebulon Pike, who discovered Pike's Peak in Colorado, and of Colonel Samuel Johnson, who fought in the Battle of Bunker Hill during the Revolutionary War. He leaves his wife, the former Marion Humber, of 1414 Highland Drive, Silver Spring; a son, Bertrand L. Johnson, Jr. of 2815 Covington Road, Forest Glen, Md., and two grandsons. Mr. Johnson's first wife, the former Marion W. Best, whom he married in 1911, died in 1924."—**Fred W. Goldthwait**, Secretary and Treasurer, Center Sandwich, N. H.; **Gilbert S. Tower**, Assistant Secretary and Treasurer, 35 North Main Street, Cohasset, Mass.

'06

For the first time since Alumni Days began, no '06 class officer attended the one last June. Vice-president **Chase** and **Bertha** were still abroad; President **Kidder** was at home recovering from a coronary spasm; Secretary **Rowe** was in Newton-Wellesley Hospital recovering

from an operation. **Chet Hoefer** kindly took over, however, and later sent me a folder "Revolution in Education" (the theme song for the day) on which was inscribed "Greetings to Ned," with messages from the five fellows who attended—Bill Abbott, Walter Davol, and Charley Kasson from New Hampshire, Tom Hinckley and Georgiana, and Chet and Ruth Hoefer. Thanks to all, especially Chet. To relieve your concern about Jim, he has been in circulation for some time, gets up and down stairs and around with a cane, and has visited his daughter Marcia in Connecticut. His left side is not quite normal yet. Yours truly came home from the hospital June 16 and by the middle of July the Doc said he didn't want to see me again for six months, but Marion still sets limits on my activities. Early in September two of the class officers, Chase and Rowe, attended the Fourth Alumni Officers, Conference, on campus, as did two Educational Councilors, **Stew Coey** and **Mike Gibbons**. Stew came down from Squirrel Island (off Boothbay Harbor in Maine), Mike commuted from Marblehead, and Sherm from Auburndale. Stewart and I had pleasant rooms at Baker House. We all profited I am sure, from the well planned program and enjoyed chatting with retired professors and friends in other classes—'91 to '63 being represented. The talk by Van Bush at the Faculty Club was truly inspiring!

Several letters arrived before Alumni Day: **Jim Wick** was in Rockport in April and expected to be back there in time for Alumni doings; **George Burpee** wrote early in June that he was disappointed he couldn't be on campus on Alumni Day as he would be getting back that day from the Pacific coast, adding: "Both my wife and I remember the pleasant occasion when we were able to attend two years ago." That's the way everyone feels about Alumni Days! . . . Along in July **Abe Sherman** reported a visit by **Cy Young** en route from Maine to Minneapolis. . . . Sherm Chase and Bertha got home early in July from a ten-week European trip, about which he sent me a brief account—more details later. . . . **Charley Kasson** dropped a line to ask how come he didn't see me on Alumni Day. . . . On Sunday, July 1, **Harry** and **Mary Fletcher** dropped in at 11 Cushing road to spend a couple hours with us on their way to Harry's home town of Portland, Maine. He talked by phone with **Bob Rose**, who, with Ann, was cruising most of the summer, I believe. . . . As reported in the June, '61 notes, **Eleanor Manning O'Connor** and husband had attended the Centennial Banquet, and I had received a long letter from Eleanor just before that regretting that she could not attend our 55th as they would be in Mexico. At that time she was, to quote, "still talking architecture and house planning at the Chamberlain School and also finishing the course I am still giving at Simmons after 43 years!" Recently a special reporter for the Boston Traveler picked Eleanor for one of her feature articles about important people and devoted half a page to it, including four photos of Eleanor and her Beacon Street

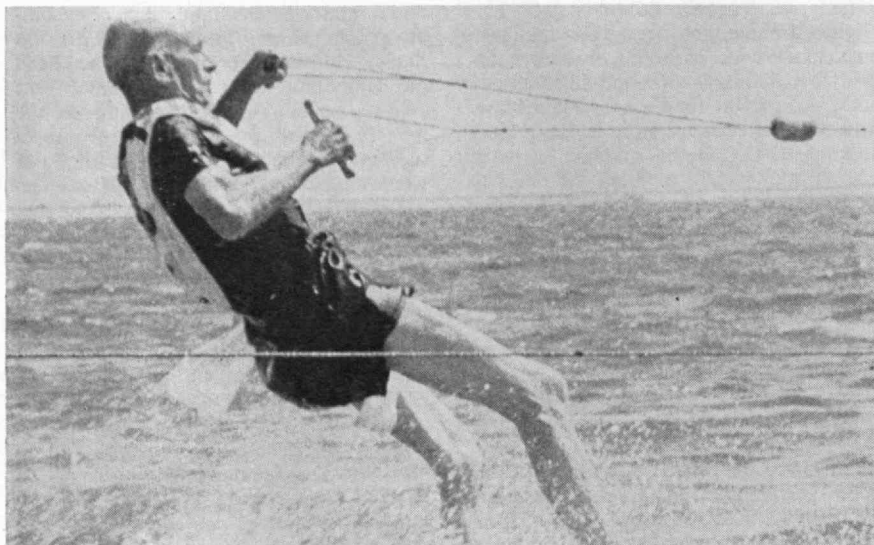
home. . . . Virginia Bohlin started her article: "Candlelight, fresh flowers, soft music, and wine with dinner before an open fire. These may sound like honeymoon props. But they are everyday fare for a young-hearted couple in their 70's, the Johnson O'Connors, married 31 years this month." After a brief account of Johnson's laboratories for administering aptitude tests in Boston, New York, Phil., Chicago, Detroit, Tulsa, Fort Worth and Los Angeles) she reveals that "Mrs. O'Connor, the former Eleanor Manning, is an M.I.T. trained architect and one-time Housing Committee Chairwoman for the Massachusetts Civic League. "Every one of the eight rooms (of the 100 year old house) has a fireplace and every fireplace is used constantly," said the silver-haired Mrs. O'Connor, who is listed in 'Whos Who of American Women'".

It takes busy men to write books—Herbert Hoover for example—and another of our classmates has joined that fraternity—**Terrell Bartlett**. A news release reached me in August, as follows: "Mr. Terrell Bartlett, well-known San Antonio mechanical engineer, has signed a contract for the publishing of his book, 'Who Wrote Shakespeare—The End To The Argument?' Mr. Bartlett's book, soon to be published by the Naylor Company of San Antonio, is a well-researched treatise which attempts to dispel much of the confusion and misinformation surrounding the true authorship of Shakespeare's works. He has gained wide recognition for his planning and construction of the Medina Valley Dam Project, the Galveston Causeway, and many other major Texas projects."

The morning of July 13 I checked the death notices in the Boston Herald and discovered the obituary for **Henry E. Darling**, who had died the previous day in Miles Memorial Hospital in Damariscotta, Maine. I soon heard from several who had seen the notice or heard of it. Stew Coey and Betty had driven in from Squirrel Island (where they have summered for 38 years) earlier in July to call on Henry and Ann and learned that they were both in the hospital, as Ann had fallen and broken her hip, they were told. On the 17th they called at the hospital to see them and "were shocked to find out that Henry had passed on." Also, as they had the year before, Harry Fletcher and **Gene Fogg** had planned to visit Henry, but before they could get together on a date Harry saw, and sent me, the obituary in the Portland paper. Abe Sherman had received from a nephew (class of '36) a clipping from the Providence Journal and sent it along with his letter saying that **Cy Young**, en route from Maine to Minnesota, had called on Henry and found him in the hospital. The best report was in our Wellesley Townsman, as the Darlings had lived almost around the corner from us for some 20 years. Henry Everett Darling, III, Theta Xi, was born June 16, 1885, in Salem, Mass.; he prepared at Danvers High School, and entered with '06 in 1902. He was active during undergraduate days, in the cast of "The Scientific King," the 1903 Tech

Show, and was assistant press representative for "Simon Pure Brass," the '04 Show. He was secretary of The Tech our sophomore year and in junior year was editor of The Institute and on the '06 Technique Board. He was also a member of the Civic Club, Mining Engineering Society, Walker Club and Geological Journal Club. Henry did not return senior year but has always been a loyal and interested classmate, attending most of the reunions from '21 on, with his wife Ann (Johnston). His entire career has been with AT&T, until 1923 working with the New York company and living in Westfield, N.J. That year he joined N.E.T.&T.—one account says "to negotiate a strike settlement"—becoming general traffic manager and in 1947 a vice-president and director of Westerly Automatic Telephone Company in Boston; he retired in 1950 when they moved from Wellesley to Wiscasset. During World War I Henry was responsible for training operators and supplying telephone equipment for the U.S. Forces in France. He was a member of the New York Republican Club, the Engineers Club, the Telephone Pioneers of America, and a life member of the Essex Institute. He leaves his wife Ann; two sisters and a brother; three sons, Richard J. of Natick, Philip H. of Rockville Center, L.I., and Peter V.M. of Chicago; a daughter, Mrs. Ann Hwoschinsky of Buffalo, and numerous grandchildren. A letter of sympathy was sent to his wife and family.

Again, on the morning of September 8, I found in the Herald a report of the death the day before of **Tom Hinckley**, who had been killed by an auto on Memorial Drive, I immediately sent a note to Georgiana, which she acknowledged a few days later by telephone. A private service was held, with a memorial service later which Jim and Sherm and I, and possibly others, expect to attend. **Thomas Lesley Hinckley**, XI, was born August 21, 1882, in Belmont, but when he entered Tech his home address was St. Paul, having prepared at St. Paul High School. Tom lived at Tech Chambers, was a member of the Civil Engineering Society, Civic Club, Technique Electoral Committee, Class Day Committee, and was class secretary senior year. His thesis was "A Study of the Dust Nuisance in City Streets and of Methods of Reducing It." From 1906 to 1911 his work was in sanitation with the Ohio State Board of Health and the City Engineers of Altoona, Pa., Hering & Fuller, the well known sanitary engineers of New York City; and for a year he was instructor at the University of Minnesota. From then on his work was with cities and counties in municipal research, after a year with the Training School for Public Service in New York, and except for service with the AEF in W.W.I. He served in various locations including Westchester County, Milwaukee, Toronto (Chief of Staff, Bureau of Municipal Research), American City Bureau, N.Y.; and then for several years ('21 to '25) he was secretary of the Middletown Chamber of Commerce and assistant secretary of the Bridgeport



Arthur O. Christensen, '07, displays prowess on water skis at the 55th Reunion of his class at Osterville, Mass., last June.



Chamber. From '27 to '32 Tom was with the Division of Municipal and Industrial Research at M.I.T., becoming acting director; for a short spell he was assistant to the mayor of Cambridge. In 1934 he made a reorganization survey at the Rhode Island Hospital in Providence; from 1934 until he retired in 1952 he served with the Massachusetts Department of Corporations and Taxation where he was chief of the Bureau of Municipal Information.

The Technology War Record contains this account of Tom's service in W.W.I.: Captain F.A.; Lieutenant F.A., 27 November 1917; Captain, 1 May 1919; A.E.F. 27 March, 1918-December 1919; attached 315 FA and to Administration Section SOS, in charge of all payments to French on account of billeting U.S. troops July, 1918-July, 1919. Of his war years Tom has written: "My own experience, not being with a combat unit, seemed more like an exciting two years of travel in Europe (France, Italy, and Luxembourg). Professionally, I feel that my various contacts with government, both as an 'insider' and an 'outsider,' have been fruitful if disillusioning—the weak spots are public indifference and the politicians who flourished because of it." Tom wrote that in 1936, 26 years ago, and isn't it even more so today? Tom married Georgiana Ames in 1939. He is also survived by a brother, Captain Robert M. Hinckley, USN Ret., of Washington, D.C. Through the years Tom Hinckley had been the interested, willing, helpful, sort that warms the heart of a secretary and binds us closer together. We will miss Tom.

Also through the Herald came a report of the death on September 9 of **Abraham Lincoln Lampie**, I, in Boston, and through the Alumni Office reports of the death on July 14, 1961, of **William Martin Van Amringe**, X, at the VA Facility, Bath, N.Y.; of **Perry A. Vaughan**, VI, at Bloomfield Hills, Mich., and of **Henry Lane Oaks** (no date) probably in Framingham, Mass. Careers in later notes. . . . Make a note of these address changes: **Carleton M. Emerson**,

II, who wrote that he had moved in with his two sisters and a younger brother at the old homestead, 72 Mount Vernon Avenue, Braintree 84, Mass.; **Stephen Kearney**, I, from Lowell to Bowers Avenue, Tyngsboro, Mass.; **William A. Sheldon**, III, from Homestead, Fla., to Alma, Colo., his old stamping ground.—**Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 81, Mass.

'07

The 55th Reunion of the Class of 1907 went through exactly on schedule from Friday noon to Sunday afternoon, June 8, 9, and 10. Sixteen of the young men of the class spent all or part of the time at the Oyster Harbors Club at Osterville on the Cape. This was the 10th reunion at which we have made our headquarters at this club. Don Church, our gracious host, did everything possible to make our stay enjoyable. We shared the club with the Class of 1927, which was holding its 35th Reunion. . . . **Phil Walker** and **Harry Moody** arrived just before noon on Friday; and after dinner, the archives, pictures and banners of 1907 were set up for exhibition in the small room adjacent to the main dining room. We found **Arthur O. Christensen** had already arrived with a grandson and his friend from South Carolina. They had brought a motor boat with them and gave an exhibition of water skiing on the bay back of the club house.

A large table in the dining room, seating 16, was assigned to the class so that we all could sit together at each meal. President **Don Robbins** brought **Hud Hastings** and **John Bradley** from Providence. **Milt MacGregor** came over from his home in Brewster; **John Frank** came via plane from Chicago; **Lester Brock** drove from Akron, Ohio; and **Gil Small** drove down from Boston. At dinner Friday night we had 10 members and the two younger guests. The evening was spent in small groups talking over earlier days at Tech and experiences during the

years of active business and now, the activities enjoyed in retirement. . . .

Don Robbins and **Hud Hastings** were the only two members to play golf. We missed **Roy Lindsay** very much, as he has for a number of years headed up this activity. Saturday morning **Hugh Pastoriza** arrived from Bronxville, N.Y. **Dick Ashenden** came from his summer home at Falmouth and **George Griffin**, from Woods Hole. George was class treasurer during our years at Tech. This gave us thirteen '07 men to lunch together. **Harold Farrington** and his very delightful wife stopped off at the club and visited for a brief time with most of the '07 men who were in the lounge.

As at past reunions, a boat trip had been arranged for Saturday afternoon. The "Sea King", with Captain Karl L. Sollows in command, made a trip around the Island; but as it was cold and quite rough, a trip into the bay was not ventured. Upon our return we found that **Henry Martin** had brought **Louis Freedman** and two guests with him and that they would stay for the class dinner. We recognized and greeted Louis at once; but it was several minutes before the pompous gentleman, with the gray Vandyke beard and the yachting outfit, was recognized as Henry Martin. There had been a beard-growing contest in Henry's home town of Mattapoisett which accounted for his disguise. The men gathered on the lawn at the back of the club house, and various pictures of the group were taken by the president and the secretary, for inclusion in the class records. Official photographs had been ruled out by vote of the members. . . . Saturday evening dinner took the form of a banquet. Our maitre d'hotel, Michael Pitts, set this up on the side porch adjoining the main dining room. This gave us privacy, excellent service, and quietness which the main dining room did not afford. Unfortunately, Arthur Christensen had suffered a severe chill during his afternoon water skiing and had been sent to the Hyannis Hospital by the doctor who treated him, where he was confined until Monday.

Saturday evening was taken up by the official class meeting under the direction of President Don Robbins. The secretary made a report covering the 52d Reunion held in June, 1959. He distributed to all present a printed list of the 125 living members and a printed list of all those who are deceased which was as complete as the records of the Alumni Association could make it. A Treasurer's Report to June 1, 1962, was also presented and approved. John Frank suggested that a card, signed by all the men present, be sent to **Sam Marx**. This was done. The present officers were unanimously elected for another five-year term: **Don Robbins**, President and Class Agent; **Phil Walker**, Secretary-Treasurer; and **Tommy Gould**, Assistant Secretary. The secretary then answered questions about class members, with answers based on the recent canvass made of the Class. . . . It was voted that the secretary make reservations at the Oyster Harbors Club for our 60th Reunion in June, 1967, and that informal dinners be held at the Faculty Club in the spring and fall of each year. No special printed report of this 55th Reunion will be mailed to our members, as they all receive The Technology Review. If enough of the men are interested to attend a reunion in two or three years hence, plans can be formulated and carried out at that time.

A number of the men left Sunday morning. John Frank took a plane for Bermuda, where he was to enjoy his hobby of painting for several weeks before returning to Chicago. It was a disappointment to all the men at the reunion that so many of their classmates who had indicated a possibility of being present were, for very good reasons, unable to attend at the very last minute. Among these were Albro, Barker, Coffin, Dempwolf, Dodge, Eaton, Garratt, Gould, Lindsay, Frank MacGregor, Naramore, Noyes, Otis, Rand, Richards, and Swett. However, we must realize that when a man is nearly four score years young, health and travel can offer difficulties not easily overcome.

In the recently published list of deceased members of 1907, I listed **Francis H. Kales** as "assumed deceased." **Carl Bragdon** wrote to me and confirmed Francis' death in Montreal February 7, 1957. Francis Kales' cousin, Frank H. Davis, '04, has supplied the following information of interest to the men of Course IV: Francis did not graduate with '07 because of non-completion of various literary courses. He served for some time in the Lighthouse Department of the U. S. Engineers in the Pacific area. He then went to Hong Kong, set up his own architectural business and did a great deal of work. During World War I, he served in the Red Cross in Asia, contracted some kind of fever, was nursed by a Japanese girl and later, on February 3, 1921, married Shima, who came from Nagasaki, Japan. Francis made his home in Nagasaki but commuted to the Chinese mainland, where his work was located. When World War II started, he was interned in Japan. The day Nagasaki was bombed, his wife Shima was killed, a loss from which

Francis never recovered. He returned to the U.S.A. on the Gripsholm in August, 1942, and later was located in a hospital in Montreal. He remained in Canada, living on a farm in Quebec, although his death is recorded to have taken place in Montreal, February 7, 1957.

Alumni Day, June 11, was an ideal one for outdoor activities. The following '07 men had signed up to be present at some, or all, of the activities: President Don Robbins and Mrs. Robbins, Arthur Christensen and two guests, Louis Freedman, Professor Ralph Hudson and Mrs. Hudson, Gilbert and Mrs. Small, your secretary and Mrs. Walker. At the noon luncheon we had a reserved table with '08 and at the Banquet, an individual table for '07. The Pops concert was missed by all the '07 group. Arthur Christensen had recovered sufficiently from a threatened attack of pneumonia to be present at all the events on Alumni Day with his Harvard class before returning to the South. It was especially nice to have Ralph and Mrs. Hudson with us at the banquet. They had just returned from a tour of Europe where he took many pictures.

The first change of address to be noted on your new class list: **Chick Eaton** is now living at 1720 Shore Road, Linwood, N.J. . . . There are two deaths to note: **Fitch H. Haskell, IV**, on May 20, 1962, and **Mrs. Augusta B. Hartt**, on November 27, 1961. These were non-associate members about whom there was no information in the secretary's files.—**Philip B. Walker**, Secretary-Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary 409 Highland Street, Newtonville, Mass.

'08

We held our 54th Reunion on June 8 to June 10 at the Melrose Inn, Harwichport, Mass. Headquarters were in the Beach House as in the past. The following attended: Bunny Ames, Heinie Sewell, Frank Towle, Nick Carter, Joe Wattles, Charlie Steese, Jimmie Burch, Ray Drake and George Freethy. Our guests were Mesdames Ames, Sewell, Towle, Wattles, Steese, Drake and Freethy. The weather was kind and not too warm, so several went in for a swim. **Joe Wattles** showed Kodachromes taken at former reunions as well as those taken on some of the Wattles' world tours. . . . **Ray Drake** had samples of shoes made entirely of plastic. They looked like leather but will wear much longer and are water proof. . . . Monday, June 11, was Alumni Day at Cambridge, and the following were present: Howard Luther, Nick Carter, Frank Towle, Jimmie Burch, Joe Wattles, Miles Sampson, Leo Loeb and Mrs. Loeb. The cocktail hour was held in the Old Armory Building and was followed by the banquet in Rockwell Cage.

We are sorry to report the deaths of the following classmates: **Sam Hatch** died at his home at Marblehead, Mass.,

on June 26, 1962. **Roy W. Norton** of Vineyard Haven, Mass., died on November 27, 1961; Professor **Edgar P. Slack** of Spring Lake Heights, N.J., passed away on August 4, 1962, and **Leonard S. Gerould** of Pittsburgh, Pa., on February 23, 1962.

We have just learned of another honor received by **Harold S. Osborne**. He was presented the silver medal of the American Society of Planning Officials on April 30, 1962, at the Society's conference at Atlantic City, N.J. . . . The first dinner-meeting of the 1962-63 season will be held at the M.I.T. Faculty Club, 50 Memorial Drive, Cambridge, on Wednesday, November 7, 1962, at 6 P.M. Hope you can be with us as plans for our 55th Reunion will be discussed.—**H. Leston Carter**, Secretary, 14 Roslyn Road, Waban 68, Mass., **Joseph W. Wattles, 3rd**, Treasurer, 26 Bullard Road, Weston 93, Mass.

'09

There were 16 of us present on Alumni Day, June 11, some attending the luncheon in the Great Court, some attending the dinner and entertainment in the Rockwell Cage, and some attending both. Those at the luncheon were John F., II, and Margaret Davis; Chet Dawes, VI; Ben, II, and Barbara Pepper; Art Shaw, I; Henry Spencer, II; and George Wallis, II. The following attended both the luncheon and dinner: Francis Loud, VI; Joe Parker, I; F. Gardiner Perry, VI; Molly Scharff, XI; Julius Serra, I; Art and Betty Shaw; Lawrence Shaw, V. Tom Desmond, I, attended the dinner only. Alice Desmond remained in Boston, not feeling up to coming to Cambridge. An operation at the Massachusetts General Hospital prevented the attendance of Marcia Wallis. However, the class sent her flowers and George reports that her recovery is quite satisfactory. An automobile accident prevented the secretary and Muriel from attending the dinner.

The Fourth Alumni Officers' Conference, at which the class was represented by your secretary and **Art Shaw**, was held on September 7 and 8 at the Institute. Alumni and class officers were guests of the Institute, dormitory facilities and all meals being provided. The objectives of the conference were to acquaint us with the Alumni Association and the Institute. Space permits only a brief summary of the subjects discussed by alumni officers and members of the Faculty. These include student admissions, student aid and affairs, and educational programs. We learned much about the Alumni Fund and its new program, alumni clubs and reunions—their organization and operation, and about the Technology Review—from its editor, Volta Torrey. There was a special session for class agents which Art attended. Friday afternoon there was a reception at the President's house followed by a buffet dinner at Walker Memorial (for which too much cannot be said), and an address by President Stratton telling of the scope of the Institute's educational

and research activities as well as future plans. There were also demonstrations of new technical apparatus, and Saturday noon there was a luncheon at which our honorary classmate, **Van Bush**, was the speaker. Everyone agreed that the conference was a grand success, particularly in acquainting the Alumni with one another, with the Faculty, and the Institute. As a speaker and source of information, Don Severance, '38, Executive Vice-president of the Alumni Association, was pre-eminent, and your secretary learned much from him relative to class notes, class organization, and reunions.

As we all know, **Molly** has an international reputation as a consulting engineer, his work taking him to many parts of the world. We requested information about his journey to the Far East and he writes as follows: "During April and May I spent several weeks with an associate in Kathmandu, Nepal, and in New Delhi, collecting data for a report to the Agency for International Development and the Government of Nepal on an outline of the engineering studies required to provide a basis for a long term power development program for Nepal. On my return from New Delhi, Mrs. Scharff met me in Rome and we enjoyed a brief vacation in Italy, Spain, and Portugal."

... We are proud to report the following honor conferred on **Tom** and **Alice Desmond**: "Tom C. Desmond, as a guest-of-honor, received an engrossed citation concerning his services to education at a recent large public dinner sponsored by the Science Advisory Committee for the public schools of Newburgh, N.Y. Among the tributes read were one from New York State Commissioner of Public Education James E. Allen, Jr., recalling that Desmond, while a member for 28 years—from 1930 to 1958—of the New York State Senate, served all those years on the Senate Committee for Public Education; and one from President Julius A. Stratton, of the Massachusetts Institute of Technology, mentioning that Desmond since 1941 has continued as a life member of the M.I.T. Corporation. Desmond's wife, Alice Curtis Desmond, also was honored with an engrossed citation praising the educational value of the 17 books she has written for children. Her last published book was a fictionalized biography for high school girls entitled 'George Washington's Mother'."

We have received a clipping telling of the death of **Ballard Young Burgher**, I, in Dallas, Texas, at the age of 75. He was a successful oil, investment and real estate dealer. Ballard moved to Texas as a child and attended the Dallas public schools, the University of Texas, and then the Institute where he was a member of the Civil Engineering Society, Texas Club, Southern Club, Glee Club, and the Technology Club. He performed his thesis on the properties of concrete with the late **Horace Clark**; he served in World War I as a lieutenant in the Air Force. He was a member of the Board of Directors of the Texas Bank and Trust Company, Petroleum Club, Rotary Club, past-president of the Brook Hollow Golf Club, and an official of the Highland

Park Methodist Church; he was a 32nd degree Mason and a Shriner. Survivors are two daughters, Mrs. Charles W. Flynn, 3d, and Mrs. Robert Kohler, Jr.; a sister, Mrs. Webber Atwell, a brother Cedric, and four grandchildren.—**Ches-ter L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; **George E. Wallis**, Assistant Secretary, Wenham, Mass.; **Francis M. Loud**, Assistant Secretary, 351 Commercial Street, Weymouth 88, Mass.

'10

Several classmates have passed away since I sent in my notes for the July issue of the Review last May 14. **Orrin J. Crommett** died at South Orleans on May 26. I had visited Orrin occasionally when I visited my daughter in Orleans and for the last year or so Orrin had been in poor health. I was able to attend his funeral services. The following is from the Boston Herald: "Orrin J. Crommett, 78, retired Boston insurance executive died late Saturday at Cape Cod Hospital in Hyannis. His home was at Square Top in South Orleans since his retirement in 1953. A native of Somerville and former resident of Needham, Crommett was co-founder of the Service Mutual Liability Insurance Company of Boston in 1920. He served as its first vice-president and chief engineer. In 1930 the firm merged with Employers Mutual of Wisconsin and continued to maintain an office in Boston. An Army veteran of World War I he was a member of the American Legion post in Needham."

I received the following notice of the death of **Harold N. Cummings**: "Harold N. Cummings, an engineer for Curtiss-Wright Corporation, and a retired vice-president of Newark College of Engineering, was found dead yesterday at his home, 695 Grove Street, Upper Montclair. He was 77. Mr. Cummings retired from N.C.E. in 1950 after serving the college 30 years. He had been employed the last 10 years by the Curtiss Division of Curtiss-Wright as a consultant in metals fatigue, in which field he was an authority. Mr. Cummings was born in Oxford, Maine. He received a bachelor of arts degree from Bates College and a bachelor of science degree from Massachusetts Institute of Technology. He was the author of several Air Force manuals in metals fatigue. In 1956, he was one of the few American scientists invited to an international conference in London on metals fatigue. In 1960, N.C.E. awarded him its first honorary master of engineering education degree. He was a life fellow of the American Society of Civil Engineers and a fellow of the American Association for the Advancement of Science."

Also, the notices of the deaths of **William H. Duffield** on January 29, 1962, and **Ralph J. Haley** on December 19, 1961, have been received without any other information. . . . On May 27, 1962, **William H. March** of Mobile, Ala., died. The following is from his daughter:

"I am writing to inform you of the death of William Henry March, Architect, Class of 1910. Following his completion of the course at M.I.T. he studied in Ecole des Beaux Arts. For 50 years he practiced architecture with pride and dignity. He created many buildings; he was especially proud of the schools he designed. On the day of his death and funeral hundreds of friends expressed their gratitude for the opportunity of knowing him. The local newspaper carried a front page notice of his death and an editorial comment on his contribution to the community. Through all his life he was proud of being an alumnus of such a great school as M.I.T."

On June 15, 1962, **Robert F. Maxey** of Portland, Maine, died. He was manager and director of the Calais Water Company. He was born March 16, 1887, in Gardiner, son of Josiah S. and Louise Allen Maxey. He was graduated from St. George Preparatory School, Newport, R. I., and M.I.T. He was employed by the Maine Trust and Banking Company of Gardiner of which his late father was president. He later became purchasing agent for the Sandy River Railroad of Rangeley and also served as a duty commissioner of the Maine Fish and Game Department. . . . On July 23 I received a notice of the change of address of **Augustus B. Merry** and, on August 20 I received notice of his death on June 19. . . . On August 26th **Otto R. Rietschlin** died. The following appeared in the Boston Herald: "Funeral services were held in Clearwater, Fla., for Otto R. Rietschlin. Before his retirement he was associated with the Tuttle Construction Company of Boston, Mass., and had been formerly associated with the United Fruit Company and the Aberthaw Construction Company of Boston. He was a graduate of Mechanics Arts High school in Boston and of the Massachusetts Institute of Technology. He formerly lived in West Roxbury and was a member of the West Roxbury Highland Club."

On June 11 the following classmates attended the annual Alumni Day festivities: John B. Babcock, 3d, Mr. and Mrs. Leroy E. Briggs, Mr. and Mrs. Robert F. Burnett, Herbert S. Cleverdon, Arthur H. Curtis, Laurence T. Hemmenway, Mr. and Mrs. Ralph W. Horne, Mr. and Mrs. Edmund B. Kiely, Edward A. Kollen, George P. Lunt, Harold C. Manson, Mr. and Mrs. Murray H. Mellish and Charles W. Wallour. . . . On June 23 I attended a testimonial dinner given in honor of our classmate **Dudley Clapp** by the employees of the Deecy Products Company, of which he was founder and president. Dudley had decided to give up active work and retire. It was a very enjoyable evening, and I fully agreed with all the fine tributes former associates and employees gave him. Dudley is now living in Peterborough, N.H. I had a letter from him on July 15: "Helen and I have been here a month now and are just beginning to feel settled. I know I am going to like being retired and will have no trouble finding plenty to do. We saw the enclosed notice in the local paper about **Walt Spalding** and Romalda and invited them to dinner last evening.

Walt is certainly having an interesting time flying all over the world in Navy planes and now accompanying his wife while she gives lectures in all parts of the country. We had a grand visit."

The following is from the local Peterborough paper about Walt Spalding and his wife: "Mrs. Romalda Spalding, internationally known proponent of the Unified Phonics method of remedial teaching, was greeted Monday morning by 92 public school teachers and lay persons at the first class of her two weeks course being held at PCS." Before Walt and his wife went to Peterborough he called, and we had the pleasure of dining with them. Walt is now enjoying world wide travel and has fully retired from his architectural firm in Honolulu. . . . It has been a long time since I have heard from **John B. Myrick** of Prince Edward Island, Canada. The following is from the Maritime Merchant, Sackville, N.B.: "Want to see what the Irish moss industry has done for West Prince?" asked Tignish businessman John Myrick, "then look at the homes along the shore between here and North Cape—you'll see houses that are neat and in good condition, brightly painted and looking spruce—all paid for by the moss." Mr. Myrick should know what he's talking about when it comes to Irish moss, for he was the first man on P.E.I. to enter the business, in 1941, when American users of the seaweed were desperate for supplies to replace the stocks formerly imported from Europe but at that time unavailable because of the war. A graduate of the Massachusetts Institute of Technology, Mr. Myrick was not only in a position to obtain supplies of the moss, but could understand its technical uses and the necessary preparation to make it fit for market."—**Herbert S. Cleverdon**, Secretary, 120 Tremont Street, Boston 8, Mass.

'11

Jack Herlihy, II, received a card in July from **Jim Duffy**, VI, who was in Yalta. With his usual humor Jim noted that "Roosevelt once was asleep here." F.D.R. was in conference at Yalta with Churchill and Stalin in February, 1945. . . . **Franklin Osborn**, XI, of Walnut Road, Vineland, N. J., had an accident and sudden illness in December, 1961, spent about two weeks in Vineland Hospital and was then transferred to Seigman's Nursing Home in Vineland. He was still there in July and, although he had just about regained his usual good health, he expected to be there a few weeks more. He had been in Chile, S.A., for about 30 years with the Braden Copper Company, the Chile Exploration Company, and the past two decades with the Andes Copper Mining Company, having retired from the latter company about four years ago. All of the foregoing information comes from his brother, Stanley Osborn, '15. . . . The following quotations are from a June letter from **Paul Cushman**, VI, of 1212 Marlboro Lane, Oklahoma City 16: "We are getting our

house in order after a trip with 204 square dancers on a special train to Miami Beach, Fla., to the 11th annual square dance convention. This was a 12-day trip. Otilie and I called on **Frank Smith**, III, and Mrs. Smith at their home in Honolulu on January 20. His nice home is at the northeast edge of Honolulu and has a real view of the mountains. This meeting came about during a 17-day tour of 50 square dancers from Oklahoma City, including a few from places as far as Texas, Kansas, Chicago and California. We spent three days in San Francisco, seven in Honolulu and thereabouts, and three in Los Angeles. I made a bi-annual visit to **Bill Warner**, I, at Nowata, Okla., in April. Bill drove me, in his new car, to Oologah, 20 miles south of Nowata, where Will Rogers' birthplace has been moved to a hill 300 yards west of the old site, since a new lake is soon to fill the yard. The residence was quite a substantial building when Will Rogers was born and still is a mansion."

O. W. Stewart, I, succeeds Dennie as Class Agent for the Alumni Fund. His son, by the way, has been the 1939 class agent for some years. This makes the third father-son combination working for the Fund. . . . **Bill Orchard**, XI, of 546 Ridgewood Road, Maplewood, N.J., died July 6, 1962, in Orange Memorial Hospital, after a three-week illness. He was 73. He was a former president and member of the board of governors of the Hospital. He was born in Boston, and after his graduation from M.I.T. he served a few years with the Metropolitan Water Board in Boston and the New Jersey State Department of Health. He then joined the Wallace and Tiernan Company, Inc., of Belleville, and became general manager, a position from which he retired in 1955 after 40 years of service. He continued in an advisory capacity until his illness. He was treasurer of the American Water Works Association; a founder of the organization that is now the Water Pollution Control Federation; and the guiding force in establishing the Water and Sewage Works. He was also prominent in civic activities and a Republican leader in the New Jersey communities where he lived. He is survived by his wife, Ann, a sister, three sons, two daughters, and 17 grandchildren. . . . **Harry A. Lewis**, IV, of North Kingston, R.I., died Octo. 30, 1961.

Address changes include: **Gardner C. George**, I, 3960 N.W. 11th Street, Pompano Beach, Fla.; **Harry Lake**, I, 1620 Todd Street, Mountain View, Calif.; **Fred Harrington**, I, Brookline Trust Company, Brookline 46, Mass., c/o Miss Geraldine B. Conners; **Harold E. Babbitt**, XI, 900 University Street, Seattle 1, Wash.—**Henry F. Dolliver**, Secretary, 10 Bellevue Road, Belmont 78, Mass.; **John A. Herlihy**, Assistant Secretary and Treasurer, 588 Riverside Avenue, Medford 55, Mass.

'12

The 50th Year Reunion of the M.I.T. Class of 1912 has come and gone. It was a delightful experience, well attended,

blessed with sunshine, good fellowship and a realization that God has been most kind to let us celebrate survival and our graduation.

On Friday, June 8, our flock assembled at Cambridge; some 40 classmates were clad in cap and gown—all black except for the Class Procession Marshall **Fred J. Shepard**, whose large red hat and ruddy complexion resembled those of the Queen's Beefeaters. Full of the glory of three score years and ten, we led the academic procession and had seats of honor on the platform, choice seats, well front. We heard the fine addresses and witnessed the awarding of degrees to the class of 1962 and to graduate students—well over 1000 degrees. The ceremony was impressive and we of 1912 felt both honored and important.

The luncheon was in the Great Court. Several large tents shielded the large gathering from sun and the public address equipment made the speakers at the head table clearly heard by all. Those in the 1912 group were guests of President Stratton and were seated just in front of the head table. Once again, we were honored as members of the 50th year class. To us of 1912, the outstanding event at the luncheon was the talk to the Class of 1962 by our **Jonathan A. Noyes**. This talk was based on a letter written over 50 years ago to Johnny offering him a job with an infinitesimal salary and with a Simon Legree schedule of work hours. The letter was read and enjoyed by all. Johnny pointed out that today's starting salaries are much higher, the normal work week much shorter, but the necessity of hard work remains if success is to be achieved. Johnny accepted the job offer and is still active in the same company 50 years later.

After the luncheon, the 1912 group drove to Harwichport and were welcomed at Snow Inn by the Entertainment Committee, **Jay and Priscilla Pratt**; **Harold and Helen Manning**. Snow Inn again proved to be a delightful spot. The Inn was filled to capacity, but we were cared for nicely. The accommodations and food were excellent, the grounds were beautiful and an active, interesting program was enjoyed. The high spots included a trip by the ladies to the local shops. **Harold D. Mitchell** gave a splendid talk on 'Bird Life' with beautiful color projections and with sound effects. We are also grateful to **Ray Wilson** who showed slides of our reunions at Snow Inn in 1952 and in 1957. Jay Pratt put on an exciting movie of our 25th Reunion where our classmates appeared—sure enough, as promised—athletic, young and handsome. The main dining room was given to the exclusive use of 1912 for the banquet. After brief remarks by others, Jonathan Noyes concluded the banquet with well told "Tall Tales of Texas," letting into our sober, middle-aged minds the warm sunshine of Texas, one of the larger states of the Union. Once more, we were proud of Johnny. . . . Final count indicates that 56 classmates and 46 ladies attended at Snow Inn, the total 102. Not everyone is present when class photographs are taken. For comparison, the 1952 Reunion

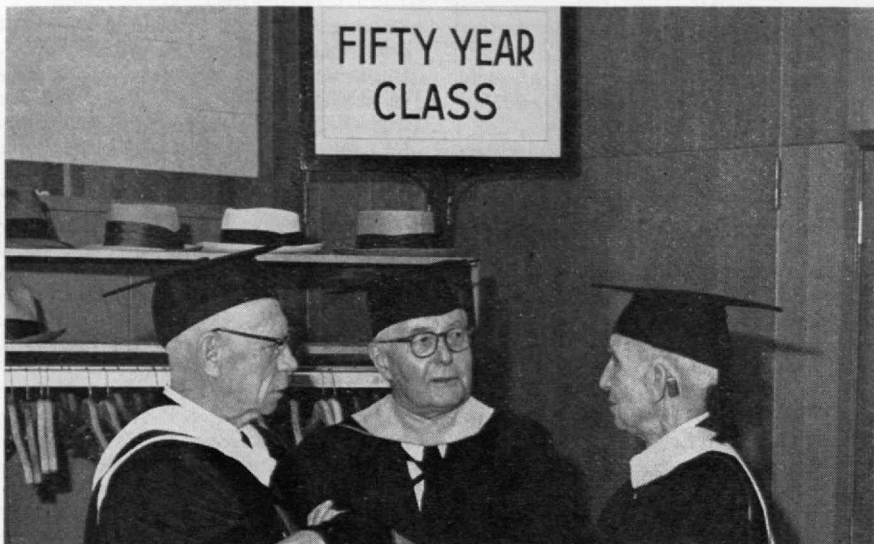
photo shows 91 persons, that of 1957 shows 63 persons; and that of 1962 shows 97 persons. (Perhaps of interest: 261 persons were awarded bachelor's degrees in 1912.) In addition to the 102 who attended at Snow Inn, 23 others registered at the Inn, but found it necessary to cancel.

Most of use were at the Alumni Day celebration at Cambridge on Monday, June 11. President Stratton and others spoke of the good progress of the Second Century Fund—the goal is \$66 million for new construction at Cambridge. Most of us had joined in the bus tours earlier in the day and had viewed the progress made in erecting new buildings for the Institute. Only \$9 million remain to be raised. We examined the exhibits and attended the symposiums on today's educational methods. Because rain threatened, we had the cocktail party in the adjacent armory, rather than out-of-doors. Dinner was in Rockwell Cage where seating was by classes and we chatted with classmates. Entertainment was by groups of skilled Barber Shop singers. We then said farewells and departed for home. It had rained during dinner, but the shower had passed by. Not a drop fell on us during the four days of the reunion.

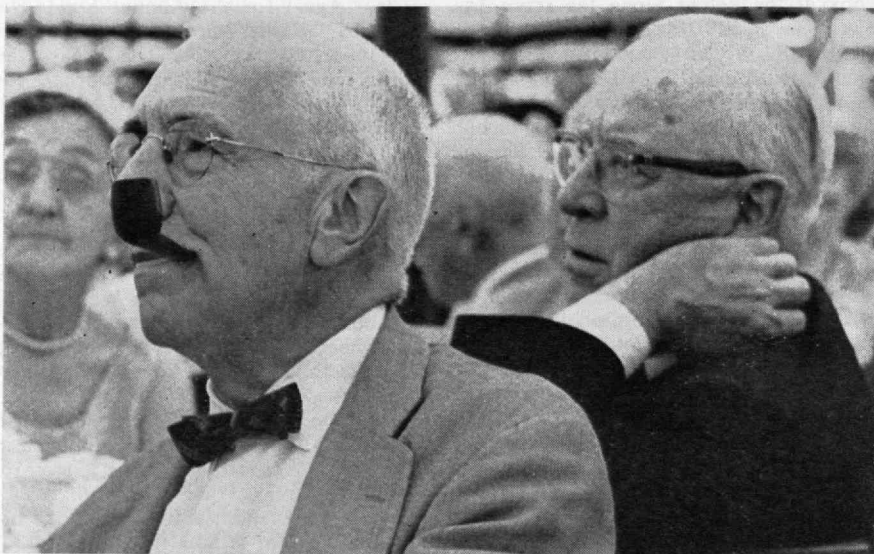
For the 50th Year Reunions, the Alumni Association staff works closely with the class reunion committee and offers services not available in other years. Fred Lehmann, '51, gave the Reunion Committee of the Class of 1912 excellent co-operation. It was wonderful to see so many classmates, to be with them, and to share the pleasures of a most successful 50th Reunion.

Those attending were: Lee A. and Mrs. Bailey; Harvey S. and Mrs. Benson; Harold H. Brackett and guest; Frederick H. Busby; Charles H. Carpenter and guest; James A. and Mrs. Cook; Philip W. and Mrs. Dalrymple; Albion R. and Mrs. Davis; Frederick H. and Mrs. Dierks; Arch M. and Mrs. Eicher; Ralph M. and Mrs. Ferry; Albert G. and Mrs. Gale; R. William and Mrs. Glidden; Walter P. Green, Sr.; Jesse F. and Mrs. Hakes; Hugo H. and Mrs. Hanson; Jerome C. and Mrs. Hunsaker; Milton and Mrs. Kahn; Walter W. and Mrs. Lang; John H. and Mrs. Lenaerts; Harold C. and Mrs. Mabbott; Harold G. and Mrs. Manning; Eugene T. and Mrs. Marceau; Edward M. and Mrs. Mason; Hamilton and Mrs. Merrill; Harold D. and Mrs. Mitchell; Wallace J. and Mrs. Murray; Jonathan A. and Mrs. Noyes; John M. and Mrs. Pettingell; H. Malcolm and Mrs. Priest; Kenneth C. and Mrs. Robinson; Willis R. and Mrs. Salisbury; Erwin H. and Mrs. Schell; Frederick J. and Mrs. Shepard; Cyrus F. and Mrs. Springall; George M. and Mrs. Sprowls; Guy A. and Mrs. Swenson; Charles L. and Mrs. Tuller; Louis G. and Mrs. Walsh; Robert J. Wiseman; and R. E. Wilson.

A letter from Max Levine in Honolulu states that he and Mrs. Levine were planning to attend the reunion but were prevented by Mrs. Levine's illness. Max enclosed a generous check for the Second Century Fund. . . . A letter from Eric



On Commencement Day, three members of the Class of '12, Charles A. Cary, Harold C. Mabbott, and Frederick A. Robinson, recalled a graduation 50 years ago.



Albion R. Davis, '12, and Henry A. Babcock, '12, at the Commencement luncheon listened intently as Jonathan A. Noyes, '12, recounted some of his early experiences.



Charles H. Carpenter, Guy A. Swenson, and Harold G. Manning on Commencement Day. The class of '12 held its 50th Reunion at the Snow Inn on Cape Cod.

Kebbon reports a pleasant summer spent at Stonington, Conn., and that he and his wife Jane, were returning in October to their apartment at 1105 Park Avenue, New York. . . . **Earl Ferry** was greatly disappointed in not being able to attend the reunion. He is now head man in the lumber company started by his grandfather many years ago. His youngest brother has been quite ill, and Earl did not feel that he could leave the business. . . . **Erwin Schell**, Reunion Gift Chairman, reported total gifts of just over \$225,000—a very generous contribution for our class.—**Frederick J. Shepard, Jr.**, Secretary 31 Chestnut Street, Boston 8, Mass.; **John Noyes**, Assistant Secretary, 3326 Shore Crest Drive, Dallas 35, Texas.

'13

Editorially, we are starting a new year. As your bearer of good and sometimes of sad news, we salute you and hope that many of you classmates will realize that "it is better to give than receive." This applies to more news to your secretary and also to the Alumni Fund or Special 50th Reunion Fund. . . . Your secretary had the pleasure of attending a dinner and meeting of the M.I.T. Alumni Council at the Faculty Club May 28 with **Charlie Thompson**. Dr. George R. Harrison, Dean of the School of Science, was the guest speaker and as usual was most instructive as well as humorous in his veiled manner.

Your scribe is very grateful to the several classmates, friends, and relatives of that stalwart, generous, loyal, and sincere friend **Tom Byrne**; Harold Crawford, Joe MacKinnin, Bob Kimball, '33, Secretary of the Institute, the Alumni Office and particularly Mrs. Grace Byrne Reynolds, Tom's sister, have supplied us with heartfelt detailed descriptions of the passing of a dedicated man, **Thomas S. Byrne**. This builder of many public buildings, college structures, religious, as well as commercial plants, departed from the earth to the realm of other celestial knights. Tom had a severe heart attack on the 20th of last October which was followed by two serious cases of pneumonia; he subsequently spent many months in the hospital until he died on May 24, 1962. In his usual spirited manner, he showed much improvement at various times during his sojourn at the hospital, enjoying daily drives and visits to his sister's home. He was born in Austin, Texas, over 71 years ago, and obtained his education to become an outstanding builder at the University of Texas and M.I.T., where he was graduated in 1913 as an architectural engineer. Following graduation he was associated with Mosher Manufacturing Company, the W. C. Hedrick Construction Company, the Army Ordnance Department as a captain in World War II in charge of the construction of several nitrate plants; and in 1923 he organized his own construction company, which grew in importance and size to be one of the largest and most reliable contract-

ing and engineering concerns in Texas. among his many monumental structures were Amon Carter Field; Fort Worth National Bank; Amon Carter Museum; Seminary South; Star-Telegram newspaper and television offices; many of the modern buildings at the Texas Christian University; General Motors plant near Arlington; the Montgomery Ward structure; and the Stripling's store and garage. Tom built and donated several buildings to the Sweeney Diabetic Foundation in Gainesville. His activities were legion; including, membership and directorates in Central Airlines, Associated General Contractors of America, Sweeney Diabetic Foundation, Fort Worth Society of Civil Engineers, Phi Delta Theta, Fort Worth Exchange Club, River Crest Country Club. Tom never found time for marriage, but made his home with his sister and family. Funeral services were from the St. Andrews Episcopal Church. He is survived by his beloved sister, Mrs. Watt W. Reynolds, and two great nephews, Watt W. and Thomas Byrne Reynolds, both of Princeton, N.J. To the members of Tom's dear family, the Class of 1913 offers its heartfelt sympathy and stands humbly in silent prayer for one of the most loyal and co-operative sons of M.I.T. and 1913.

Alumni Day of 1962 was enjoyed by all who attended and the July issue has already given all you readers glowing pictures and tales in detail, but it is always a treat to welcome and greet those who return to our alma mater, including classmates and wives or families as well as our many friends of all classes. Your class was well represented by George Bakeman; Ellen and Bill Brewster; Roz and Phil Capen; Newt Eichorn; Warren Glancy; Heinie and his better half Glidden; Ethel and Gus Gustin; Charlotte Sage; Phil Terry; Anne and Charlie Thompson; Allan and Mrs. Waite. Do you realize when you read these notes that your half century observation of graduation is only seven months away? As you know from the letter which was enclosed in the Class History, the initial plans have already been made for your 50th Reunion. The Oyster Harbor Club has been reserved for you and yours, the local General Committee expects to meet or will have met at M.I.T. to accept or revise the tentative plans suggested by your chairman. (See your June issue of *The Review* for committee members.) Will you help make this the largest in numbers and best of any 50th year reunion? When you receive your next notice, please be prepared to advise the committee that you will be present; how many guests; and when you expect to arrive at Osterville as well as Cambridge. As you know rooms will be assigned by Mr. Church as the reservations are received. Your co-operation in signifying your intentions will assist Mr. Church, the manager of the club, as well as your committee. Several of the chosen members of the committee have notified your chairman of their acceptance of the honor bestowed upon them. **Dave Stern** replies in part: "Am pleased to accept appointment." **Charley Brown** has accepted but is suspicious as to what he will be

called on to do or should we say perform? At the time of his letter, he stated that he and his good wife were leaving for a trip to the Seattle Fair and points West including Mt. Rushmore, Glacier Park, Calgary, Banff, Seattle, Mt. Rainier Park, Crater Lake, San Francisco, Yosemite, Southern California, Phoenix and retirement spots thereabouts—Prescott, Flagstaff, and Sedona in Arizona. In Sedona they will look up **Harry Wright**, who will try to sell the Browns the advantages of retirement in Sedona while Charley will sell him the 50th Reunion. Thata boy, Charley. Charley is still on a weekly schedule of 40 hours, but the now lets younger hands take care of the extra maintenance around home. He would be better satisfied to contribute to the various developments at the Institute if he was furnished with a layout map of the present day Institute or possibly of the future one. His suggestion will be forwarded to the Alumni Office for its action. Many thanks, Charles. Keep pitching.

Have you received your copy of the Class History? In the opinion of your officers, this publication is a masterpiece and full credit should be given to **Lester Gustin** who performed the research; the writing; the assembling; the editing; the publishing; enclosed were two letters, one from your Special Gifts Chairman, **Bill Mattson**, and one from 50th Reunion Chairman **Phil Capen**. The Class of '13 should stand up and give "Tech is Hell" with three long rahs for Lester. He spent many long hours to accomplish his purpose, that is to give all his classmates a nostalgic feeling and a desire to return to their alma mater and once again reminisce with old and possibly make new friends from Boston Tech. This whole project was performed and donated by Gus even to the mailing. Can we say more? . . . Once again, we must announce the passing of a dear friend and classmate. On August 4, 1962, **George Shove Darling** died after a short illness. He was born in Fall River, Mass., 71 years ago, and studied at M.I.T. and Columbia University. George was a prominent architect in this home city and was the third generation to guide the firm of George S. Darling, in existence over 75 years. During World I, he served as an ensign and was an aide to the commandant of the Second Naval District. He was a director and member of the security committee of the Fall River People's Co-operative Bank. He is survived by his widow, Mrs. Lois (Brown), a sister, Mrs. Raymond Parlin of Fall River; a brother, Edward, of Tucson Ariz.; and two nephews and a niece. To Mrs. Darling and his family we of the Class of '13 are very sad as we too feel the loss of an old friend and classmate. The writer personally knew George before we entered M.I.T., for we both spent considerable time on the Westport River. . . . Once again, we bring tidings from lady of the air, Mrs. **Marion Hart**. Yes, again she crosses the Atlantic in a single engine plane. This time, the trip from Newfoundland to Shannon, Ireland, consumed only 11 hours. So after a 24-hour sleep, this 70-years-young sports gal

stated "It was a nice uneventful trip." Marion had a navigator both times; in 1953, she crossed on a similar 2,500-mile trip from Newfoundland to Ireland in a single engine Beechcraft in 13½ hours. In 1949, our gal helped pilot a four-engine converted bomber over the Atlantic. That was about three years after she had secured her pilot's license. Marion received her engineering degree in geology in 1913. As a geologist she has made flights to Alaska and South American countries. Her talents do not stop there. She has authored books on geology as well as navigation, besides books in a lighter vein, "Who Called That Lady the Skipper," and "I Fly as I Please." The 1953 crossing was the first leg of a 35,000-mile air trip which took her through 25 countries in Europe, Asia and Africa. Well, Marion, we are looking forward to having you with us at Oyster Harbours for our 50th, then you can give us a travelogue in person. Until December, keep planning for that celebration which starts Friday, June 7, 1963.—**George Philip Capen**, Secretary-Treasurer, 60 Everett Street, Canton, Mass.

'14

Alumni Day again this year was a pleasant and sunny day. The retirement of so many of our classmates, who have moved from the local area, has decreased those who have been present each year. Those who were present this year were Atwood, Crocker, Derry and grandson, Leigh Hall and wife, Hamilton and wife, your secretary and wife. **Charlie Fiske** felt unable to come down from Maine because of the illness of his wife, and **Herman Affel**, too, was prevented because of illness. He was also prevented from attending the September Alumni Officers' Conference. Fortunately, Herman has much improved from a rather long session at the Massachusetts General Hospital. Your secretary had seen him from time to time and was very happy to hear that he was about to leave as I departed for Turkey. It was a most enjoyable trip of seven weeks, and I did not return in time for the September conference. . . . **Dave Gould** just sent in a clipping regarding Mrs. Marion (Rice) Hart, '13. She and one other had just flown to England in a two-seat Beechcraft Bonanza. Their trip was from New York to Vienna, where she was waiting for clearance to Moscow which had not been granted at that time. . . . **Oliver Hall** has sent word of his wife's death. As '14-ers will recall, both she and Oliver had always been exceedingly active in class affairs.

Belatedly, word has been received of the death of **Henry L. Gardner** on September 19, 1960, in Las Vegas. He is survived by his widow and four children. He had spent most of his life in Los Angeles until he moved to Las Vegas in later life. His work was principally in connection with drilling equipment. . . . It is sad to report that within the last six months death has come to other of our classmates. The first on March 23 is that of

Otto Strahlmann in North Hollywood. He prepared at San Diego and at M.I.T. took both the mechanical and electrical courses. In World War I he was a captain in the Army S.A. . . . **James M. White** died on April 4, 1962. After working in New York, he became associated with the J. G. Peppard Seed Company of Kansas City, Mo. We have no record of his family. He was a member of Lambda Phi, Beaver Club, Vectors, several activities and varsity teams. He was a captain of chemical warfare when the United States entered the war; before that he had been with the American Ambulance Service seeing much action; he was awarded the Croix de Guerre with the Silver Star. . . . In Havana, **Pablo Beola** died of an attack on April 17. He prepared at Chauncy Hall School. Although he returned to Cuba after graduation, Beola has always maintained a close association with the Institute and last visited here on Alumni Day two years ago.

In the April issue, we had published an item extracted from one sent by Professor **Babcock** regarding the work of **Welton A. Snow** who died of a heart attack in Washington on June 29. Welton had had a busy and vigorous life, largely as an official of the Associated General Contractors of America. He prepared at the Needham High School and was a member of Theta Xi. Military life was well known to him. He first went to the Mexican border with the Ohio National Guard. In World War I he served as a captain of Field Artillery and in World War II as a lieutenant colonel, Military Government Section, with service in North Africa and Europe. He was given medals by Belgium, France and Italy as well as receiving the United States' Bronze Star. He was survived by his widow who died 10 days later. They had no children.

John P. Burdick died after a series of heart attacks on August 11. He had transferred from the Rhode Island State College to the Institute. John had spent his entire life in Rhode Island and was associated with the Brown and Sharpe Manufacturing Company, where he was advertising manager. He lived in Wickford, R.I.; and he was active in local affairs, one of which was as captain of the Wickford Volunteer Fire Company in which capacity he had reconditioned the old Defiance unit. He was invited to serve as Marshall of the Muster only a few days before his death. He was president of the New England Fireman's League. This is one of the few Musters still in existence. There are no children, and he is survived by his wife, Mrs. Jean E. Burdick.—**H. B. Richmond**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **C. P. Fiske**, President, Cold Springs Farm, Bath, Maine; **H. A. Affel**, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine.

'15

Hello everybody! Here beginneth the first column of the new season with the hope you and your families enjoyed a

pleasant and happy summer. **Al Sampson's** and **Barbara Thomas'** planning and preparations made our class cocktail party the outstanding Alumni Day event for 1915. Widespread reports said it was the biggest and best one we've had. Let's continue that standard. Al had 112 reply cards to his invitation. Many of the messages will follow in later Class News. It was grand to have 73 classmates and guests together again. We especially welcomed Mr. and Mrs. Tom Pitre; Ralph '28; and Mrs. Jope from the Review staff; Frances and Jim Donovan, '28; and Pearl and Al Wechsler, '21. Some invited guests who regrettably could not come were Betty and Glenn Jackson, '27, and Virginia (Thomas) and Paul Johnston, '21. Better luck next year; the fame of this cocktail party has spread far and wide, so that it has now become a yearly 1915 fixture for Alumni Day. Al's report is the best play by play you could get: "Just to remind returning 'Sons of Technology' that New England weather is still a matter of the next moment, J. Pluvius performed in keeping with tradition. But, to 1915, The Class Supreme, his 'Nibs' well knew, it's always fair weather when 15'ers get together; our only casualty was that the ice cubes melted faster—meaning it was hot weather.

"In accordance with custom, the doors of Professor Morrison's Salon Pour Les Pieds Fatigués, opened wide promptly at four o'clock to give aid and succor to those hardy individuals who throughout the day had kept the 1915 flag at the top of the mast. There, white clad nurses and interns quickly applied restoratives from the sun-kissed cornfields of Kentucky, and, vitamin enriched products from contented bovines of the dew-drenched pastures of Minnesota. Continued applications quickly rolled back memories to those days of long ago when a neatly turned ankle was only seen at the Waldron's Casino and the parlours of the late Mr. Howard. By the hour of six some 75 sons, daughters, and grandchildren, and their creative sponsors, had acquired the courage and the fortitude to explore the mazes of Cambridge and the gourmet pleasures of the Kresge menage. One group, led by **Fuller Schenley**, decided to approach by water, but, the good ship 'Rogers Hall' ran aground and they missed the local festivities. Fortunately they were rescued by a group of friendly Algonquins who brought them to the teepee of Chief **Rooney**, who feasted them with steaming cauldrons of succotash and cholesterol-free Pemmican, which with foaming beakers of saffrafas tea sent them on their homeward ways rejoicing. All in all it was a wonderful day."

"Far too many had answered the clarion call to taps, which brings sadness to all. Others, who had planned to come sent regrets and a promise to try again in 1963. Many were missed and not the least of these was Fran and Able **Azel**, who sent cables of good wishes from the Arctic Circle where they are conducting research on the effect of fallout on the diametrical properties of the Vodka ice-cube. Today we relax, and in retrospect

realize—1915, 47 years! Time is as fleeting as the sunsets for us all. Yes! Tender indeed is the Night when it is mellowed with 'auld acquaintance.'

Those cables Al read, purportedly from Fran and me on the high seas to the North Cape, must have strained the censorship. To the Class: "What a Class! Help Azel! Am now on the briny deep will be thinking of you this afternoon." To **Pirate Rooney**: "Send my red flannels air mail express; it takes more than love to keep you warm here." To **Frank Scully**: "Don't come up here at your age; the nights are only two hours long; I can't take it, and you can't either." To Al: "Choppy seas, heavy mists, and the biggest ice cubes we ever saw are floating all around us. But we have 1915 memories to keep us warm; and at five o'clock we will hoist a couple on high to you all. Here's to 1915—Classmates, wives, friends and guests." Then a final to **Jack Dalton**, supposedly from Moscow: "Send credentials. Comrade Mack wishes to conduct check on fallout effect on vodka." Extraneous expenses, above and beyond the usual charges, were generously contributed by Al. Many thanks, Al, for this donation and our appreciation to Barbara and you for all you did to make this such a pleasant enjoyable and successful party.

Attending Alumni Day functions at M.I.T. were: William E. Ash and guest; Lawrence H. Bailey; M. Warren and Mrs. Cowles; Ralph E. Curtis; Henry F. and Mrs. Daley; John N. Dalton; Marshall B. Dalton; Benjamin and Mrs. Hurvitz; B. L. Landers; Henry L. and Mrs. Leeb; Archibald S. Morrison; Waldo F. and Mrs. Pike; George T. Rooney; Frank P. Scully; William B. Spencer; Frederic E. and Mrs. Waters; Carl W. Wood; Max I. and Mrs. Woythaler; Henry L. Marion; Evers and Mrs. Burtner; Eastman A. Weaver; Viking Enebuske.

Fran and I spent a May week-end with **Vince** and **Marion Maconi** in Hamden, Conn., to be briefed for our North Cape Cruise, which they had taken last year. Neighbors **Kenneth Cartwright**, '12, and **Herbert Gfroerer**, '16, dropped in for an M.I.T. visit. Our cruise and trip were delightful, with breathtaking scenery in the Norwegian fjords and mountains and a gay whirl across Scandinavia, with many interesting comparisons to make between conditions in these socialistic countries and our own republic. We were impressed by the beautiful, healthy, well-behaved children. Denmark's famous pastries were irresistible—you all know the *avoidsupois* result!

On May 29, at the M.I.T. Faculty Club, **Madeline R. McCormick**, Assistant Treasurer of the Alumni Association, was honored with a dinner as a tribute to her years of service dating back to 1920. For this retirement dinner our Class sent **Madeline**, always a great friend and helper to 1915, an orchid corsage. She wrote: "Your wonderful class of 1915 is the greatest. I can't tell you how pleased I was with the orchid I received from you at my dinner. It was beautiful and I wore it with much pride. Thank you so much." Our sincere wishes to **Madeline** for a long, happy and enjoyable retire-

ment—she deserves it. . . . At the May luncheon of the Boston M.I.T. Club, **Jac Sindler**, **Clive Lacy**, **Archie Morrison**, **Wally Pike** and I attended to hear Professor **Robert C. Nord** tell about "The Political Disintegration of Massachusetts." In view of the recent and current political scandals in this once fine old Commonwealth, it was a revealing, startling and interesting talk. There ought to be more men like Professor Nord active in politics. From **Margaret Stringfield's** sweet letter to Fran and me, you can see that Ray has made a fine choice: "We enjoyed so much the dinner and evening with you in Cambridge. The dinner was delicious, and the visit with you and the view across the Charles were delightful. The next day at the convention, my sightseeing, the final banquet with entertainers from M.I.T. went off well. Friday morning Ray showed me where he used to room, and we walked through the library and park. That afternoon Art Keating, '17, drove us to Hyannis, stopping at Plymouth to let us wander around. From the forsythia and magnolias in Boston to the lilacs and spirea in Kansas, with tulips everywhere, it was all very beautiful. Kansas was more advanced and everything was green, but the temperature was in the upper 80's, and I was glad I had summer dresses. Thank you for making our stay in the East such a pleasant one."

Otto and **Helen Hilbert** certainly keep traveling, and this letter shows how many faraway places they have visited. Ship ahoy! "We returned last week from a very pleasant trip. We left New York January 27 on a German freighter for Port of Spain, Trinidad. On the way we stopped at LaGuaira, Puerto Cabello, and Maracaibo, Venezuela. Originally we were scheduled to stop at Georgetown, British Guiana but they had riots there on the day we were to put in. We were the only passengers, and the crew all spoke German, although this gave me no difficulty because I can get along easily in German. Food was good and the officers were most pleasant. I practically lived on the bridge. From LaGuaira we were able to revisit Caracas. Puerto Cabello and Maracaibo were new to us and very interesting; neither are often visited by tourists. By the way were you in Curacao about February 8, 9, 10? A Grace Line ship was there while we were there, and in my wandering around the docks I went by it a number of times. We spent about a week in Trinidad, then took a jungle cruise in to Dutch Guiana to pick up a load of bauxite. This was most interesting with lovely accommodations (five passengers), very good food and a trip up a river into jungle inhabited by primitive peoples. We returned to Port of Spain in time to see the carnival, which is one of the most unusual spectacles we have ever seen. The carnival in Rio and Mardi Gras in New Orleans are tame compared to this. Then we flew to Montego Bay, Jamaica, where we spent a week, drove to Kingston and took a freighter back to Port of Spain, about an eight-day trip stopping at all the British Islands on way. We usually sailed at night, had all day in port to see the

islands. We saw many lovely things and much scenery. Then we flew to San Juan, spent three days there and flew to Miami and St. Petersburg. We had driven our car to St. Pete in January and had taken a train back to New York to start our trip. This gave us our car in Florida, where we stayed about a month. Next week we go by train to Los Angeles to the Rotary International Convention and to a reunion of the Rotary group which toured Japan together a year ago, just before the Rotary Convention in Tokyo. Have a nice trip to the North Cape. We have this on our list for next year. Helen joins me in our best to you and Fran."

Sol Schneider wrote that his wife **Ann** is improving steadily but slowly and is still on a diet and strict medication. He planned to see **Andy** in Philadelphia and talked to **Larry Bailey** while he was down there. We had a card from **Andy** on his long Mediterranean cruise. We are all glad that **Ann Schneider** and **Andy** are on the mend, after their long, serious illnesses. . . . In April, **Allen Abrams**, public-spirited citizen of Wausau, Wis., wrote to *The Wall Street Journal*: "Many years ago we became disturbed at the complacent attitude of businessmen over the good job they were presumably doing, and their complaints that the public didn't appreciate all this. We decided that we would begin with our own school teachers. Consequently, we started an annual program of visitation—teachers to industry and businessmen to schools. This program has been in effect for 13 years, during which time we have added occasional economic discussions with teachers. The results have been most gratifying in building up mutual understanding and respect, so much so that we recommend the program to other communities." **Bill Holway's** wife, from Tulsa, Okla., was presented the Alumnae Achievement Award by Radcliffe College in June. She is a member of the 1910 Class. . . . **Erwin H. Schell's** ('12), wife read the 50th year class report.

It's sad to record the passing of **Louis O. Clements** of Framingham, Mass., any old and devoted friend of our class. As **Max Woythaler's** guest he had for many years attended every Boston Class Dinner and Alumni Day Cocktail Party and had even been at our last three big reunions on Cape Cod. He was well known and well liked and will be greatly missed. The sympathy of our class went with our flowers to his family. . . . Next month you will read the messages returned to Al Sampson from his Class Cocktail Party invitations—all to "Help Azel."—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

'16

Another reunion, our 46th, passes into history—an enjoyable one to those who came—a disappointment to those who didn't make it, and perhaps just a bit also to **Jim Evans**, who came early, had a three-broken-rib fall, and was flown home ahead of time. The locale was Chatham Bars Inn in Chatham (Cape

Cod), June 8, 9, and 10. The weather was perfect for the golfers and for the delicious shore dinner held on the water's edge Sunday noon—clam broth, steamed clams, corn-on-the-cob, lobsters. Everything done in that perfect way that the Chatham Bars people are known for! A picture postcard pair of days! Those in attendance included the Bill Barretts, the Steve Berkes, the Len Bests, Jack Burbank, the Howard Clausens, Harold Dodge, Jim Evans, the Ralph Fletchers, the Charlie Lawrances, the Irv McDaniels, Bob O'Brien, our dynamic honorary member, the Izzy Richmonds, Len Stone, Steve Whitney, Bob Wilson. Now we know the weather the Cape Codders are always talking about—clear blue sky, crisp clean air with a trace of salt, and loaded with let's-go quality.

The feature of this reunion was the presence of **Irv and Kay McDaniels**, who came East from South Pasadena especially for the reunion; Irv showed slides illustrating some of the exciting places they have visited in their six-month trek to California from Spain via Egypt, Port Sudan, India, Ceylon, Burma, Thailand, Singapore, Hong Kong, and Japan. Over the past year our column has been filled with colorful sections of Irv's travel letters to 1916, bits about narrow escapes, out-of-the-way places, scenic wonders seldom reached by the hastening tourist, inside stories, fantastic doings in foreign places, and sound advice on where to go if you want to see what's-what. We got a real taste of these things at the reunion—absorbing shots of unusual places and people. We give a timely warning—that none should miss the next reunion that the McDaniels (now back in Spain) attend. . . . A second item, hardly a feature, was **Jim Evans'** unfortunate accident, a fall on the lower stairs of Cottage Was-It-G?, his embandagement by a local doctor, his meals in bed for two days, **Bob O'Brien's** early Sunday A.M. drive in Jim's car to Teterboro Airport in N. J., and Jim's special trip in Ralph's plane from Chatham to Teterboro with Wayne Fern, pilot, and Ed Savage—Ralph's right-hand men of transportation. Then we all thought Jim would sit in a rocking chair or something for weeks, but instead he was back at substitute teaching of science and manual training three days later in the Paterson, N. J., high schools.

Other Reunion items include: the cottage headquarters with lots of what'll-you-have for those who wanted it; big, yes, very big, bangs from a never-before-seen device brought by you-know-who; **Izzy Richmond** flying overhead with graceful dips and salutes in his neat little plane; disappointment at the number of last minute cancellations including the **Barkers** (Joe had a siege of staphylococcus boils—all cleared up by early August), the **Arvin Pages** (illness of Claire in western Massachusetts changed their plans), the **Leaches** (Bill improving but had to say no), and the **Brophys** (daughter then arriving from Europe). **Steve Whitney** was back on his feet again after a hospital session in

April; Len Stone is really playing golf again—his first and successful try since his accident in Florida over a year ago; and the **Charlie Lawrances** had been vowing from way back in '61 after his illness that he was surely going to make the 46th. . . . The secretary mounted a display of newspaper clippings and publications of '16ers over the past year; the golf course was in a perfect setting, tested principally by Messrs. Best, Fletcher, Stone, Wilson, and Dodge; and genuine first-of-the-season sunburns were had by those who dared or weren't careful. . . . "Marge's Column" in the June 13 issue of the Boston Herald reported: "The Tech 1916 group convened at Chatham Bars Inn last weekend with at least five of the group, many famous names, flying in by private planes, **Steve Whitney** reports." Now, all we have to do is to look forward to the 47th—only seven months to go!

In Cambridge, on Alumni Day, the '16ers who attended included the Steve Berkes, the Len Bests, the Ralph Fletchers, Al Lovenberg, Shatswell Ober, Ed Weissbach, Bob Wilson, and Stew Rowlett. . . . The **Vert Youngs** were unable to attend the 46th because of a conflict; Vert had to attend a trustee meeting at Trinity College in Hartford "on the Friday that the reunion started, and I decided I had better stay for commencement as I had run out the year before." Then two days in New York and two days in Baltimore, and Vert says: "Now I'm settled down for a month, licking my financial wounds, as it were. Travel surely costs money if you have to stay at a hotel—\$28 a day for a room at the Park Lane in New York. Next time I think we'll try Central Park." Vert and Sylvia are planning another trip to Africa in '63: "this time a minerals and geological tour (my post-retirement hobby) followed by a visit to my niece in Durban and then possibly a short hunt in Portuguese East Africa in quest of a sable antelope which I failed to get on our hunt in Tanganyika in 1959. At age 69, there isn't too much time left for trips like this!" Prediction: they'll get a sable antelope in 1963!

Early in September, someone asked: "Did you see **Steve Brophy** on television with the President?" We hadn't but we found out why he shared the spotlight with the President at a White House ceremony on August 28. As founder-president of the American Heritage Foundation, Steve presented a progress report on the Foundation's 1962 program. A news release stated: "Since the end of the famous Freedom Train tour, the Foundation's major work in the field of good citizenship has been a non-partisan, educational program to get more of our people to register, know the issues and vote; and also, to contribute to the party of their choice. As you know, record votes were achieved, particularly in 1952 and 1960. Now in 1962, the American Heritage Foundation is again conducting an educational program to persuade the American people not only to register, study the issues and vote on an informed basis, but also to participate in and contribute to the political party of

their choice. The program has been endorsed by the Republican and Democratic National Committees and former presidents Eisenhower, Truman, and Hoover." According to the Washington Post: "President Kennedy yesterday was given what he called 'some startling statistics' on non-voters and stay-at-home voters. The Chief Executive congratulated the Foundation for its non-partisan efforts to get Americans to participate in political activity." Steve writes: "Incidentally, we were with the President for about half an hour and found him to be a most interested listener. Our project is completely non-partisan. As a matter of fact, if anything, it tends to favor the conservative side because our efforts are directed mainly through service organizations, such as Rotary, Kiwanis, etc. But we manage to maintain our non-partisan status and do some good, I hope." So—be sure to vote on Tuesday November 6!

Dr. **Morris Sanders** forwarded a letter and message to those attending the 46th Reunion. He noted: "On Harvard Medical Alumni Day, June 1, I remarked to Dr. Howard Means, another M.I.T.-Harvard Medical School personality: 'We are, it would appear, early bionical products of the late 'shot-gun' marriage of the Life and Physical Sciences.' Imagine where the union of our Life and Physical Sciences might be today, had the biological concepts of Sedgewick, Prescott, Gunn, Turner, and others gone on developing in the midst of a school of engineering specialist some years ago. At Atlantic City this spring, I probably listened to the reporting of the most successful results to date of the young daughter science of Bionics, sired by Cybernetics and the Physical and Life Sciences, in Manned Space Flight. It would seem that up until a relatively recent period, the engineers and the physician-biologists were too highly specialized in their own particular and separated fields." . . . **Jim Evans** reports a letter from **Arvin Page** in June saying he had a premonition that something would go wrong if he failed to show up at the 46th and look after Jim, and: "Perhaps now you will heed my advice and limit your intake of bourbon to the hours before dinner. A nip before breakfast may be o.k. for the youngsters, but you must remember you are no longer a youngster, even though you may feel and act like it at times." Says he ran into **Hal Gray** and **Ed Weissbach** in the Statler lobby in Boston and had a pleasant few hours with them. The Grays are planning a trip around the world next year, and Ed was going to Europe for the summer. Arvin says: "Looks as though I were the only '16er who can't scrape up the dough to visit foreign shores. However, I'm thoroughly satisfied to stay here (North Carolina) if we can get rid . . ." and then he talks politics again!

Ed Weissbach wrote in the middle of May about looking through the latest M.I.T. Register of Students; he found that Professor Joseph C. Riley, '98, was living in Needham. He visited Professor Riley, whom he characterized as "one of

the best" in the old days, and discussed things then and now. Ed's enthusiastic remarks prompted us to send a copy of his letter to Edward S. Chapin of Marblehead, Secretary of the Class of '98 (and, as he says, a personal friend of our **Bob Wilson**) who will report on this. Ed comments further on changes at Tech since the early days—library restrictions for example: "In my days, in New Jersey we could have them send us books by mail at the mere cost of postage; today even in this area they rather frown on letting the Alumni enter the library. I wrote the alumni secretary about it and they finally said we could come in to consult various volumes, but that they did not allow Alumni to take books home. Times have changed." Ed says that one of the greatest privileges in his new profession (rector of Christ Episcopal Church in Somerville) is calling on people: "I have no axe to grind and do not ask for money." He and Mrs. Weissbach were planning in July to take the S.S. Rotterdam for England "and then go on a cruise to the Grecian Islands, from Athens to Istanbul, seeing Mt. Athos, Troy, Ephesus, and Phillipi on the way. This Grecian tour is in line with my wife's classroom work at the Winsor School, where she teaches Greek and Latin. By the way do you remember Phil Alger, '15? (Do I? My roommate in '16-'17!—Secretary.) Phil's sister is a teacher at the Winsor School too. And the Miss Winsor who started the school was 'Molly' Pearson's sister-in-law." Small world!

Jap Carr, writing from Palm Beach in May, said his principal reason for not writing before was that he fell playing tennis on December 31 and broke his right wrist. He was not going to make the reunion because they were not leaving Florida until too late in June for their regular summer stay in Buck Hill Falls, Pa. "The longer-than-usual stay in Florida was no hardship this year for the weather has been delightful, the water temperature in the middle and high 70's. My younger son and his wife have been visiting us following his release from the Navy in February. At 24 he is starting college again and is planning a five-year stint including two final years in engineering." His other son is running two automatic car washes in Palm Beach with another one opening this fall, and Jap spends a bit of time helping him. More importantly, he says, their only grandchild is there and that helps get them down early and keeps them there late. In August, back in Pennsylvania, Jap was back to three sets of tennis practically every day except Tuesday when he goes to Wilkes-Barre for a bank meeting and business odds and ends. . . . We were glad to have word from **Shatswell Ober** who notes: "Not a travel wanderer, nor an Alpine skier, I cannot offer for the Class News any exciting tales. Though professor emeritus of Aeronautical Engineering at M.I.T., I am still privileged to enjoy working here with students and colleagues. At the spring luncheon of the Professors Emeriti, another classmate, **Steve Simpson**, V, provided a half hour of hilarious re-

laxation by demonstrating feats of 'magic.'"

In May, **Bob Wilson**, as an AEC Commissioner, gave a talk to the Ohio Chamber of Commerce on "The Work of the AEC." And on August 31 he and Pearl sailed for about five weeks in Europe, mostly on AEC business. Among other things, he was to be a delegate to the meeting of the International Atomic Energy Agency in Vienna, September 18-28. As we all know, his is hardly what anyone would call a retirement job. It is a comfort though to know that Bob can continue in this important work. With respect to the overall quality of personnel in national service, we know he helps to boost the average! . . . **Len Stone**, who stays practically all summer on his Beaver Island in Lake Winnebago (mail, via U.S. Mail Boat, Lakeport), tells of getting back to New York early in August, and, with **Herb Mendelson**, holding up the honor of the class at the August luncheon. Says he saw **Steve Whitney** for a minute or two in Meredith, where Steve spends each summer, and that Steve looked the same as ever. When writing, Len was in the third week of turning over their island to the children and grandchildren, so he and Dolly had been staying at the Appalachian Mountain Club camp on 3-mile Island. Says: "But I'll be glad to get back to flush toilets, electric lights, electric sheets, refrigeration, and telephone service. Really quite primitive over here but lots of old friends and nice people."

Looking over our Sunday New York Herald on June 17, we suddenly saw a familiar face, that of **Mac McCarthy**, and immediately thought, 'oh-ho, he's tired of retirement and is going to start again.' Sure enough—that's what it is! He has been named president of the Flight Safety Foundation, an independent, non-profit, non-governmental organization dedicated to the promotion of air safety in all forms of flight. As reported, with a good picture of Charlie (or Mac, as you will) by the Tribune: "Mr. McCarthy, aeronautical consultant and former chairman of Chance Vought Corporation, assumes his new post July 1. He succeeds Dr. T. P. Wright, former Civil Aeronautics Administrator. Mr. McCarthy resigned from the Navy in 1926 to work for Chance Vought Aircraft Company as engineering executive. He became board chairman in 1954, a post he held until 1960." The Foundation has approximately 300 members located in every inhabited continent except Antarctica. . . . In mid-summer **Steve Berke** favored us with wishes that he had a lot of news to send us but, as he wrote, his doings are still very limited. Writes: "I don't even go to night ball games because the climb up to the roof boxes is too tough for me now. Elevators are the only thing Yawkey hasn't installed at Fenway Park. See **Iz Richmond** once in a while for he eats lunch at the Ritz most every day. I, only on rare occasions." We are glad Steve is making a comeback the sensible way.

We had a good post-reunion letter from **Irv McDaniel**. He and Kay had breakfast with '17—Sully (Sullivan) and

Dick Whitney had them over to their Cape Cod reunion spot nearby and Irv "saw a hundred friends I haven't seen since graduation." Irv, who has an uncanny sense of judging larger things, made some predictions which we are to file and check on November 7th—including such things as the Dow-Jones average for industrials, the kind of majority the House will have, how Nixon did in California, and the like. We just can't give details on the predictions. We are looking forward to what Irv is going to write about next, and we hope to have more for the column. Even the girls in the editorial office at M.I.T. tell of enjoying what Irv writes! So, Irv, keep it up! . . . **Kem Dean** writes from Houston; he says he's a regular reader of the column and wants to do his part. He notes that there are no basic changes in the Dean family status—three grandchildren live in Shreveport and three in Houston. Naturally they drive to Shreveport—about 235 miles—rather frequently. They spent their vacation this year at Sea Island, Ga., which they find "a most delightful place to relax, swim, fish, etc., and where the food and service are unsurpassed." Kem has not yet thought of retiring from business (his letterhead reads "K. Dean & Co., Spot Cotton Brokers, Cotton Exchange Bldg., Houston 2"), but he says he doesn't work as hard at it as he used to: "I like to have an office and keep up with what's going on." Houston is still a fast growing city; what used to be the cotton and lumber city has changed to the oil, chemical, and space center. The population was 140,000 when he first went there—now it is over a million. Kem sends greetings to all; it sounds as though he will be at a reunion soon (1963 maybe?).

In late July **Francis Stern** reported his return from a week's fishing in Canada. He writes: "Am fairly refreshed and relaxed and quite happy over the fact I tied into a 23 pound and a 25½ pound salmon both on a 4½ ounce rod. In spite of pretty severe weather conditions, our week on the Matapedia River was worthwhile. Besides, out of a foursome, I came home with gross profits of \$1.75 from cribbage winnings, so all in all, it reduced the price of fish by about two-tenths mill per pound!" Again, a card from Francis in mid-August from Martha's Vineyard mentioned the acquisition of "a fine coat of tan and a full two inches of belt line." . . . Your secretary had the pleasure of talking with **Mark Lemmon** on the phone June 1, on a stopover at Dallas airport. Mark sent his greetings to the class and to the reunion. He continues active as consulting architect for the Dallas School Board and has 20 projects under way. Familiar to Texans but intriguing to visitors is his address—Mockingbird Lane!

We failed to mention in the reunion report a supply of duly inscribed "M.I.T. 1916" pencils at the Reunion from **Len Best**, and we would like to take this opportunity to exclaim on the superb quality of this brand, the Tyrex, Richard Best "Futura" pencil. We speak from long experience; it is a real delight for anyone who really wants the best! And

speaking of quality, when you are admiring and appreciating Strathmore paper in any of its many forms (such as the M.I.T. Class of 1916 stationery) just keep in mind that this didn't just happen. Val Gooding headed up the research activities of Strathmore until his recent retirement. He and Mrs. Gooding spent two months vacationing last spring in Florida and Texas, the latter affording an opportunity to see the grandchildren. . . . Back in June we had a card from Arizona from the **Harold Millses** who were again exploring the southwest, this time the southeast corner of Arizona, and for the third time (?), the Southeast corner of Utah. They have fallen in love with the latter section; there are areas where only jeeps can penetrate. For information on where to go, write Harold Mills, Mountain Lakes, N. J. . . . **Don Webster** reported in June that he and Eleanor had had a "lovely Mediterranean cruise" of three weeks. Don says it's "a lazy way to see a lot, hang up your clothes once on the ship and trip ashore from there. Seven ports with many sights, sounds, smells, and experiences: Gibraltar (and Algeciras), Palma, Naples, Genoa, Cannes, Madeira, and Casablanca."

We've had some illnesses recently. **Bill Barrett** was in the Stamford, Conn., hospital several weeks in July-August with a slight heart attack. At the time of this writing (September 1) there is every indication that Bill will return to normal duties (secretary and vice-president of Metropolitan Life in New York). . . . **Jim Evans** collapsed with a heart attack early in August and was taken to a hospital in Flemington, N. J. From all appearances to Harold Mills and your secretary, who visited him there, he was getting bouncy and ready to go again if only the doctors would permit. He was ambulated to his home in Fair Lawn late in August but will have to take things easy for awhile. Both he and Bill Barrett have asked us to express in the column their appreciation for the letters and messages they received while in medical retirement. **Bill Leach** too has asked that his appreciation be expressed.

While at the shore (Beach Haven Park, N. J.) for a six weeks' stretch this summer, your secretary was honored by visits from '16ers—the Jim Evanses from Fair Lawn and the **Obie Pyles** from Flourtown, Pa. With Jim we had a kite-flying spree on the beach, with Obie we absorbed more sunshine. Obie was coming along well after his operation in May and a vacation stay in Ocean City, Md. He had only recently retired from his sales engineering work with Brown Instrument and was considering possible part-time employment in an allied line. . . . **Dick Berger** has been writing a book on one of his favorite subjects, cancer prevention; this is proving quite a job for he is doing it on a spare-time basis.

We regret to report the death of **Charlie Woolley** on June 16 in the Brunswick Naval Air Base Hospital, after having been stricken in his home in South Harpswell, Me. Colonel Charlie was one of the first American air aces in

combat during World War I, and fought with the American Field Service a year before the U.S. entered the war. According to the Boston Globe: "He shot down more than 10 German planes. He remained in the Air Force on inactive status between the two wars, rejoining shortly before Pearl Harbor. He was manager of the Baker-Young Investment Company of Boston, director of the Colonial Airways flying school, and chairman of the committee that redesigned Logan Airport for passenger flights in the '30s. He was assigned to the Pentagon during World War II and flew in secret missions to all parts of the world. He retired in 1954 after service with the Air Force in Wiesbaden, Germany, and in Paris. He was a founder and president of Archie's Club, a group of 70 World War I pilots, and was commander of the 101st Observation Squadron, Massachusetts National Guard. He held a number of decorations from foreign nations as well as from the U.S. government." **Harold Whiting**, when forwarding a clipping about it, said: "One wonderful guy."

Simultaneous notes and clippings from Steve Berke, Bob O'Brien, Harold Whiting, and Don Webster told of **Jack Wood's** death on July 23 in the Newton-Wellesley Hospital. Jack has not been well for quite a long time and absence from the last two reunions was clear testimony of that; he had been one of the every-year regular reunioners. Jack was the retired president and general manager of the Clifford Manufacturing Company of Boston and Waltham. As noted in the Boston Herald: "He was also a director of the Standard-Thomson Corporation of Boston. Born in Boston, he was graduated from M.I.T. in 1916 and was a member of the M.I.T. Alumni Association. In World War I he served as a captain in Army Ordnance. He was also a member of St. Anthony's Holy Name Society, Cohasset Yacht Club, Boston Power Squadron, and an honorary member of the Massachusetts Chiefs of Police Association."

Additional material at hand will be deferred until December, as for example, the travels of the **Allen Pettees** since leaving Venezuela, a sports column quoting **George Pettit** on how baseball statistics should be reported, two clippings on **Van Bush's** activities, the story of **Emory Kemp's** first-year landscape diggings in Florida, and more. So, with best wishes for the Thanksgiving holiday season, we say: Write a little but write often.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N. J.; **Ralph A. Fletcher**, President, Box 71, West Chelmsford, Mass.

'17

Our 45th reunion last June at Snow Inn, Cape Cod, was a big success. **Lobby** has retired as executive vice-president of the Alumni Association, and is now settled with Conchita in Cuernavaca, Mexico. **Al Lunn**, our new class president, and his committees are busy with plans

for a bigger-than-ever 50th reunion in 1967, probably at the Chatham Bars Inn on Cape Cod. You have already read about the details of all of these items in the Reunion News Bulletin **Stan Dunning** sent out in September. Between now and 1967, interim "warm-up" reunions are contemplated each year at some convenient location. Stan Dunning, being chairman of the 45th Reunion nominating committee, conveniently eliminated himself from the job of assistant class secretary, and with retiring President **Ray Stevens**, gave deaf ears to the secretary's pleas for retirement, hence the closing signature to class notes will be as formerly, along with that of **Dix Proctor**, Assistant Secretary.

Here are several echoes from the 45th reunion. The first is from **Harry Fine** of Greenville, R. I. "I am sorry that I could not make the reunion. There is not much to say about myself except that I am retired and am enjoying it. I had a little tough luck with my health, so have had to take it easy for the last 12 years." . . . The second is from **Richard H. (Dick) Catlett** of Richmond, who writes: "A mild heart attack has developed into one of my most heart warming experiences. I was distressed at having to cancel my plans for the 45th anniversary of the great class of 1917, but was surprised and touched by the many greetings which came to me as a result. The group picture with the signature of Course X members, the joint greeting from so many of the classmates and their wives, the notes of encouragement from those who have intimate knowledge of my type of ailment; all have combined to make me proud and grateful. My only possible method of thanking all of you is through these class notes. I'll see everybody at the 50th reunion or sooner." . . . Another note is from **Ken Richmond**, Brooklyn, N. Y.: "I am well, happy and working, with no immediate plans to change the situation."

A good suggestion came from Mrs. **Gus Farnsworth**, who was attending her first 1917 Reunion; namely, that the next reunion be brightened by group singing sparked by a good accordion player. There ought to be a goodly number of 'whisky tenors' and 'Basso Profundos' who could blend with the ladies present to make good music. This is being passed along to the entertainment committee. . . . Since class notes for the July issue of the Technology Review had to be in by early May, some of the news items in these notes are from late spring and the summer months.

Lobby, on his way to Mexico via automobile, wrote on August 14 as follows: "We left Cambridge on the afternoon of July 11. From Boston we went to Bronxville to spend four days with Goerge Dandrow, '22; to Delmar for five days with my cousins; and then to Ephraim, Wis., for a week with Bill West, '11, and Margaret Mary. No one could have been more hospitable than they were, and I had a good chance to rest up for the driving ahead. The Door County peninsula in some ways resembles Maine or New Hampshire, with farm-

ing land interspersed by forests, and with a nice shore line on Lake Michigan, which, however, lacks the variety of life provided by the tides of Maine and New Hampshire. The house of the Wests is located in the woods, which is nice indeed. From Ephraim, we headed almost due west to Rapid City, detouring through the Bad Lands. At Rapid City we were at an altitude of 4,500 feet. From there we drove in two days to Yellowstone Park, elevation about 7,000 feet. After giving Conchita a series of good views of sundry geysers and a chance to witness four consecutive spoutings of Old Faithful, we decided to cut out Grand Teton Park and head directly for Salt Lake City. There, we laid up three days at the Hotel Utah before continuing south. From there, we crossed the Colorado at the new Glen Canyon bridge (steel arch 700 feet above the river), saw them working on the adjacent dam, and then proceeded via the south rim of the Grand Canyon to spend the night at Winslow, Ariz. From Winslow we came to Socorro, N. M., on Saturday, and arrived at El Paso, Texas, Sunday noon; by now our total distance since Boston stands at 7,351 kilometers, or 4,595 miles. We have been enjoying (?) 90 degrees plus-plus right along and will continue to have it a while longer after we cross the line tomorrow and head south for Chihuahua. And believe me, it is HOT. My face and hands are browner (or blacker) than they have ever been, and Conchita thinks this change is very becoming—possibly because now I look more like a Mexican.”

The Wilmington (Del.) Evening Journal of May 21 recorded the death of **Francis V. duPont**, known to his classmates as “Dutch.” He died of lung cancer in University Hospital, Baltimore, eight days short of his 68th birthday. Governor Elbert N. Carvel of Delaware made the following tribute: “The people of Delaware gratefully remember Francis V. duPont for his many outstanding contributions to our state as a commissioner of the State Highway Department for 27 years and its chairman for 23 years. His untiring and efficient efforts in successfully inaugurating the construction of the Delaware Memorial Bridge climaxed his public career in our state. I send sincere sympathy on behalf of the people of Delaware to Mrs. DuPont and his family.” . . . One of Mr. DuPont’s many interests was scouting. His surveys made possible the site now known as Rodney Scout Camps. He personally supervised its development. His early history and business interests are recorded in our 30 Year Class History. He is survived by his widow and three children by his first marriage.

Another classmate, **Donald N. Swain** of Hingham, Mass., died on July 26. He attended Course XV, Option II. Our only information about his activities is from the Alumni directory, where he is listed as senior tour escort of Gramercy Tours, Inc., New York City. He was a first lieutenant of infantry in World War I. . . . A news article from Santa Barbara, Calif., states: “**Walter B. Strong**, 68, died

suddenly yesterday morning (late August) at his home. He lived here since 1948 and had been manager of Wither- spoon and Company, an investment firm here. During World War I he served in the Judge Advocates Department in the U.S. Army and after the armistice he went into engineering. In 1925 Mr. Strong went with the Worthington Corporation, a pump manufacturing firm, and upon his retirement in 1948 was assistant sales manager. He lived in Madison, N.J. He married Moselle D. Smallhurst of St. Louis, Mo., in 1931. He is survived by his wife and two sons, Walter B. Strong, and James E. G. Strong, both college students.”

Walter F. Pond, consulting geologist of Greybull, Wyo., and Malvern, Ark., wrote on May 28 as follows: “We have just come down from Greybull for the winter after being at home there for the summer. We came south through Oklahoma. Now we are about to start out on our Spring jaunt. We go East to see our son Pat and his family in Glastonbury, Conn., and while there we go up to Amherst College for my 55th class reunion, June 14-17. I regret that I cannot make the 1917 class reunion. After visiting around New England and New York, we will finally wend our way West to Greybull where we will spend the summer, and then repeat the round. I won’t be able to do it many more years, but at present my health is excellent and I can keep going easily.”

The Lexington (Mass.) Minute Man of June 14 carried the following news of the retirement of **Emil Gramstorff**: “Emil A. Gramstorff, associate director of North eastern University’s Graduate Engineering Department, will terminate 41 years of service to the University when he officially retires at the end of the current academic year (July 1), it was announced by N.U. President Asa S. Knowles. Former dean of the Graduate Division of the College of Engineering, and later, when the Graduate School was formed, director of the Graduate Engineering Division, Dean Gramstorff has taught an estimated total of 10,000 students. Appointed to the Northeastern faculty in September of 1921 as an instructor in civil engineering, Gramstorff was promoted to assistant professor in 1923, associate professor in 1926, and became a full professor and chairman of the Civil Engineering Department in 1939. After retirement, the dean and his wife will make their permanent residence at Cape Cod at their home in South Harwich. They have three daughters and nine grandchildren. Gramstorff plans to do some large-scale gardening when he retires.”

The random notes include the following: **Irving Fineman**, lecturer and author of the biography of Henrietta Szold, “Woman of the Year,” was the speaker at a meeting of the Boston Chapter of Hadassah at the Temple Mishkan Tefila, Newton, Mass. Previously he had spent three months in Israel, where he interviewed Prime Minister Ben Gurion. . . . Lieutenant General **Leslie R. Groves**, who headed the Manhattan Project which developed the atomic bomb dur-

ing World War II, has been appointed to the Board of Directors of a planned nuclear research center in Connecticut. . . . Two classmates received Sunday Boston Herald picture notices in connection with their hospital interests: **Stanley M. Lane**, President of the New England Baptist Hospital, in connection with the dedication of their Memorial Chapel; and **Ray Blanchard**, President of the Melrose-Wakefield Hospital, receiving a check for \$4,000 and a pledge of \$50,000 from the Kappa Delta Psi women for his hospital’s children’s unit. . . . If you get some pleasure from reading about the activities of old friends in the class notes, contribute some news about yourself.

You have undoubtedly read in the September issue of the Reunion News about the attitude survey on the question of jokes—corny or otherwise—as a conclusion to issues of class notes. In spite of a group of very vocal “no’s” you will have noted that the assembly approved continuance of the practice if used in moderation. Here is one left over from last season: One blistering hot day when they had guests for dinner, a mother asked her four-year-old son to say the blessing. ‘But, Mother, I don’t know what to say,’ he protested. ‘Oh, just say what you’ve heard me say,’ she told him. Obediently he bowed his little head and said, ‘Oh, Lord, why did I invite those people here on a hot day like this?’—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford 7, Conn.; **C. D. Proctor**, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J.

'18

Man’s hunger to be part of something manifests itself in many ways. Among them are the ties he keeps with his college, including class reunions and the annual Alumni Day. Present last June were Eli Berman, Sid and Mrs. Blaisdell, Ted Braaten, Tom and Mrs. Brosnahan, Harrison Chamberlain Jr., Clarence and Mrs. Fuller, Al and Mrs. Grossman, Alan Howard, Tom and Mrs. Kelly, John and Mrs. Kilduff, Gretchen Palmer, Ed and Mrs. Rossman, Alan and Mrs. Sanger, Max and Mrs. Seltzer, Earl Stevenson, Carlton and Mrs. Tucker. “**Pete**” Sanger says that the response to the preliminary check-up on our forty-fifth reunion, to be held next June at Wianno, indicates a record turnout. Better get aboard the bandwagon! You may never have another chance.

Gretchen, our unclaimed blessing who has always been an important part of the class, sent me a postcard from Waikiki with greetings and a fetching colored photograph of girls having a hula lesson under the lovely palms and blue sky of the South Pacific. She didn’t say whether she contemplates joining the class. . . . From **Leslie H. Marshall** (chemical engineering) comes news that the National Research Corporation of Boston has acquired the Marshall Products Company, a specialty furnace manufacturing firm of Columbus, Ohio. Leslie will continue as president of his group which for 30 years

has manufactured pyrometers and thermocouples used by foundries for determining the temperature of molten metal. Marshall also makes tubular furnaces for determining the properties of materials at high temperatures in high vacuum or in special atmospheres. A third area of its trilogy is special temperature control systems used in electronic, aerospace and nuclear laboratories all over the United States.

This desire to be part of something started the week of July 15 off with a song for the Magouns, because **Stuart Boyd** (chemical engineering) and his wife came to see us. He retired in 1956 as chief chemist of the Naugatuck, Conn., plant of the U. S. Rubber Company, which he served for over 37 years. They moved at once to Pompano Beach, Fla., only to be recalled to set up the chemistry laboratory for a \$9,000,000 new plant built by the same company. As with chemistry, he says all elements—meaning people—act differently. Since that assignment, he has been to Hawaii for three months, taken photographs as a hobby, made a trip to Las Vegas, Zion National Park, Bryce Canyon, the Painted Desert, the Grand Canyon, the Petrified Forest, and home. The most fun, he reports, was watching people's faces while they gambled at Las Vegas. Some are gummy with sorrow, some exploding with surprised joy, some deep in passions of revenge, some with daggers of fear in their eyes. At home Stuart has what might be called a production schedule: first day cut the front lawn, second day cut the back lawn, third day trim edges, fourth day shave, fifth day to be spent as a beachcomber. One of his sons was killed with General Patton's 94th Reconnaissance Troop in Germany during 1945 and is buried in Luxemburg. The older son teaches science in the high school at Bushnell, Fla.

Again, giving us the glad sense of belonging, the **Seltzers** (chemical engineering) and the **Grossmans** (mining) visited us on August 4. Max and Selma were but recently back from Europe, having prepared by enrolling in a Spanish university extension course at Harvard. With considerable animation Max recounted ordering baked apple for dessert and receiving custard. How come that waiter, who surely had spoken Spanish all his life, couldn't understand what Max had learned in a few months? The de luxe Ritz hotel in Lisbon was the finest they were ever in. Wall-to-wall carpets in the closets. Max, bless his loving heart, had been to see **Bill Wills** every month until Bill died in January. His widow, the lovely Marguerite, fell and broke her hip soon afterward. Al and Stella went to Miami for two weeks in February, meeting **Harry Levine** (mechanical engineering) who has apparently retired and was south for the winter.

In June **Sax Fletcher's** son, Junior, was married at the Cathedral of the Pines to Ann Louise Starrett. Sax (mechanical engineering) and his Louise have been to Europe again. Early in August he wrote me from Cloverly Farm, where he was born, in Greenfield, N.H., saying he was but recently returned, and then demand-

ing of me a patience and maturity of spirit which does not come naturally. Said he, "I found that you are known internationally and have a note for you which I promised to deliver in person. It was written in the bar of the Hotel D'Angeleterre in Copenhagen. I am not going to tell you more because I want to whet your curiosity. (It turned out to be from a professor from Cornell.) We were gone almost ten weeks, covering Scandinavia thoroughly. We had previously done other parts of Europe. This time we covered the north with a vengeance—way up the North Cape to Kirkenes and the Russian border. We also went to Holland, northern Germany, Denmark, Norway, Sweden and Finland."

Man's hunger to be part of something does strange things. In early August, while at a printer's, I was introduced to the provost of a college. With no initiative on my part, he subsequently asked me to join his faculty. So, after having been retired from teaching for over a decade, after having found that industry will pay for a day what a university pays for a week, and after at last being in a situation where earning money is not necessary, I'm going to have 125 students and once again teach what I taught so long to half that number at M.I.T. A good teacher is a person who unites his two loves—his students and his subject—always doing it with enthusiasm. So I'll now try again.

Courtesy of Pete Sanger, I have the news of **Takanaga Mitsui's** death in Japan on February 11, 1962. His course was business administration and apparently he lived in Tokyo. . . . On March 28 **Ed McNally** (mechanical engineering) died of a heart attack while fishing in Tennessee. He was president of the Barbasol Company from 1927 until 1955 and more recently served as assistant professor of mathematics at Purdue. Ed is survived by his widow and two sons. . . . On May 8 **Frank W. Cary** died in Dresher, Pa. Most belatedly comes word of the death on November 24, 1961 of **Dr. Minna M. Rohn**.—**F. Alexander Magoun**, Secretary, Jaffrey Center, N.H.

'19

Paul W. Blye, Executive Director of the Transmission Systems Engineering Division of Bell Telephone Laboratories, retired on July 1 after more than 43 years with the Bell System. In connection with this work, he has for many years been a member of the Joint Plant Co-ordination Committee of the Edison Electric Institute and the Bell System, and is presently chairman of its joint subcommittee on development and research. He is the author of many papers and technical reports relating to inductive co-ordination. . . . **Ellsworth G. D. Patereson**, Director, Quality Assurance Center, Bell Telephone Laboratories, New York City, received the Brumbaugh Award for Outstanding Achievement and Service in May at the annual convention of the American Society for Quality Control. . . . **Earl P. Stevenson**, recently

retired as chairman of the board of Arthur D. Little, Inc., has been elected president of the Greater Boston Chamber of Commerce. While he was president of Arthur D. Little, the company increased its staff 25-fold and established operations throughout the world. He is a director of the John Hancock Mutual Life Insurance Company, Liberty Mutual Insurance Company and other business organizations, chairman of the board of trustees of Wesleyan University, and a trustee of Northeastern University and Lowell Technological Institute. Tulane recently awarded him an honorary degree at its commencement.

Dr. Louis Wolff was recently named a clinical professor on the Faculty of Medicine at Harvard. A member of the Class of '19, Dr. Wolff received an M.D. degree from Harvard in 1922. He is chief of the Electrocardiographic Laboratory at the Beth Israel Hospital. He is also chairman of the Professional Education Committee of the Massachusetts Heart Association. . . . In June, The New York Times carried a full-page article on the leaders of the Riegel Paper Company. **John L. Riegel** is head of the company, which was started by his grandfather in 1862. The company has shown consistent growth and expansion, which Mr. Riegel attributes to a sales consciousness which keeps the company prepared for the constantly changing requirements of its customers. . . . On August 31, **Don Kitchin** retired from Simplex Wire and Cable Company. He and Evelyn hope to do some traveling and started this summer with a trip to Maine and the White Mountains. . . . Following is a list of new addresses: **Alfred A. Johns**, 2 Little Spring Run, Fairport, New York; **John E. Cassidy**, 14 Dorset Road, Great Neck, N.Y.; **Russell J. Widdowson**, 63 Spring Street, Malden 48, Mass.; **Stuart J. Hayes**, R.F.D. #1, Box 80, West Brookfield, Mass.—**Eugene R. Smoley**, Secretary, 30 School Lane, Scarsdale, N.Y.

'20

Present at some or all of last June's Alumni Day activities were the following: Frank Badger, Perk and Mina Bugbee, Al and Betty Burke, George Des Marias, Bill Dewey, Herb and Mrs. Fed-erhen, Dave Fiske, Jim and Lucy Gibson, Sid and Mrs. Griffin, Dan Lord, John and Mrs. Nalle, Bob Patterson, Kennedy Pope, Dorothea Rathbone, Ed Ryer, Bat Thresher, El Wason and Al Wason, also yours truly and Mrs. Bugbee.

Our illustrious and loyal classmate, **Ed Farrow**, died on August 9 after a long illness. We are indebted to **Hank Couch**, his contemporary at Kodak, Rochester, for the following information on Ed's career and achievements. Ed joined Kodak in 1921 and eventually was elected a vice-president and assistant general manager. Prior to that he was in charge of the development of cellulose acetate manufacturing processes, was superintendent of Kodak's chemical

plant and later production manager of the company. He served as a term member of the M.I.T. Corporation. He was a board member of the Rochester Memorial Art Gallery, a member of Rochester Chamber of Commerce, a former president of the Rochester Civic Music Association and a former vice-president of the Rochester Council of the Boy Scouts of America. He was grand consul of Sigma Chi. He is survived by his wife, six children and five grandchildren. Ed served as chairman of our 35th Reunion Committee. His loss is keenly felt by us all.

Hank writes that there are still three '20 men in Rochester, all of Kodak. **Happy Hopkinson** retired about four years ago and has a winter home at Cocoa Beach, Fla. **Don Kimball** retired about two years ago and has been doing a good deal of traveling. Hank himself retired the first of this year and says he is having a wonderful time gardening, golfing, fishing and hunting. He boasts that he played 30 holes of golf the other day with his son, Hank, Jr., '59, so is in good shape. Your thoughtful comments are deeply appreciated, Hank.

It is with equal regret that I must report the deaths of **Warren K. Russell** and **Ed Coughlin**. Warren had retired as president of James Russell Engineering Works in Boston and was living in Co-tuit. He leaves his wife, a son and a daughter. Ed Coughlin had been international secretary of the Architectural and Technical Engineers, AFL-CIO. Before that he was with Stone & Webster in Boston. He leaves his wife, son, daughter and grandson. . . . **Bob Tirrell** of 140 Meadowbrook Road, Englewood, N.J., was kind enough to send me news of Earl Thomas, '22, also of Englewood, who recently observed his 40th anniversary with Consolidated Edison of New York. Earl is manager of their meter and testing department. He holds several patents on high voltage cable equipment, electronic tubes and gas leak detection equipment. He is chairman of the New York district of the American Society for Testing Materials and heads its committee on insulating liquids and gases. He is chief U. S. representative on the insulating oil committees of both the International Electrotechnical Commission and the International Conference on Large Electric Systems. He has presented many technical papers. During World War II he was a colonel in the Air Force and set up the Radar Division at AAF headquarters. Later he was deputy commander of the AAF Watson Laboratories at Red Bank, N. J. He was awarded the U. S. Army Commendation Ribbon and made an honorary officer of the Order of the British Empire. A noted radio ham (call letters W2MM), he is vice-president of the Quarter Century Wireless Association. Bob Tirrell modestly refrains from saying anything about his own career and achievements. Maybe Earl will tell us something about him. Bob says he is in good health and looking forward to retirement in another year.

Larry Weymouth recently retired from the staff of Johns-Manville Research Center after 32 years with that company.

He is a widely recognized authority in the field of diatomaceous silica and was a research technologist in the Center's Celite Research Department where he developed many important products and processes. He is the author of numerous articles on filtration, filter aids, sugar refining and the uses of diatomite and holds a patent on a water purifying process. He is a member of the American Chemical Society, the ASTM Committee on Sorptive Mineral Materials and the U.S. National Committee on Sugar Analysis. Larry lives in Somerville, N.J. . . . **Bat Thresher**, Dean Emeritus of Admissions at M.I.T., was a featured speaker last summer at the Stanford Institute on College Admissions at Stanford University. . . . **Henry S. Simms** has moved from New York City to Northvale, N.J. . . . **Arthur L. Dopmeyer** has left New Orleans and is in Houston, Texas, address 6550 Bellaire Boulevard. . . . **Ed Burdell** is with the Cranbrook Foundation, Bloomfield Hills, Mich. . . . **Ted Bossert** has retired from his positions as vice-president of Aluminum Company of America in charge of research and development and as chairman of Alcoa's technical policy committee. Ted is an internationally recognized scientist in the field of light metals research and has made major contributions to the development of many of the aluminum alloys and processes in use today.

In the little Norwegian village of Sogndal this summer, I ran into Philip Lawrence Riley, '23. He and Mrs. Riley were taking a brief holiday before going to their new assignment with the U.S.A.I.D. Mission to India at Trivandrum, Kerala. Phil has had a long and distinguished career with the U. S. Public Health Service. Later I had a most pleasant visit with **K.B. White** in Paris. K.B. appears to thrive on hard work and heavy responsibilities and remains exceedingly active as the leading engineer in his field in France and perhaps Europe. It was a pleasure to meet the charming Mrs. White. K.B. told me he had had a good visit with **Lee Thomas**, who visited Paris recently, had heard from **Homer Howes** when he was there this spring, and sees **Harold Smiddy** from time to time. He also said he had heard from **Dusty Nuller**, who has retired from Johns-Manville and has been traveling in the Orient and elsewhere. Let us hear from you, Dusty. Lots more news but I'll save some of it for next month.—**Harold Bugbee**, Secretary, 21 Everell Road, Winchester, Mass.

'21

Greetings to you, as usual, on this opening of a new series of information sessions around the friendly 1921 fire-side. Although the greetings may be the same in format, their depth and warmth continue to increase in direct relation to the length of our stewardship, now beginning its forty-second year. **Ted Steffian** and your secretary would like to hear all of you say "Same to you," and it would be simple if you will just write it down on

any handy card or letter sheet and mail it to either of the addresses at the bottom of this column. Obey that urge and do it now! . . . This has been an exciting year for the Institute at home in Cambridge as well as abroad and the Class of 1921 has done its part to contribute to the many good things which have taken place and to earn its right to share in basking in the reflected glory of the new M.I.T. Alumni Day, the SCF, the Amity Fund and the Fourth Alumni Officers' Conference are but a few of the surface indications of the numerous solid foundations noisily arising in Cambridge to support new aims in teaching, new goals in service and firm guidance towards a newly-defined culture based on breadth and depth in both wisdom and appreciation. It is our self-imposed duty to relate events as they happen; you must go "Back to Tech" to comprehend fully the awe-inspiring changes which have already taken place and those which are to follow.

To pick up the thread of our narrative where we left off last spring, Alumni Day on campus in Cambridge brought back some 56 members of the Class of 1921, wives, children and guests. A bus tour of the campus revealed details of the abundant construction for educational and living purposes, the many acquisitions of buildings and property adjacent to the campus and the plans for bold new departures which are still on the drawing board. From catamarans on the Charles to cyclotrons behind the scenes, from an experimental portable schoolhouse on Memorial Drive to the 20-story laboratory giant arising near the onetime R.O.-T.C. drill grounds, Technology is bristling with a challenging transformation from the slide rule and hardware days to an ever-advancing concept of imagination and creativity born of factual knowledge. Luncheon afforded the privilege of hearing the welcome review of the year's outstanding achievements in the address of our revered President Jay Stratton, '23. Included was the first formal presidential statement we can recall, recounting a whole series of undergraduate successes in athletics! The growth of everything at Technology is so fast that our 40th Reunion Gift to the Institute last year, then the largest class gift ever to be presented to M.I.T. (grand total of \$589,003 at closing of the books) was topped by this year's gifts from two other classes!

The afternoon symposium on "Revolution in Education," the social hour and dinner with 1921 seated together made this small reunion a big one in enjoyment for us. Honors were paid to Harold E. Lobdell, '17, on the occasion of his retirement after more than 40 years of service, variously as Dean of Students and Executive Vice-president of the Alumni Association. We were privileged to be included among those who "taped" friendly messages for Lobby and Conchita to take along to their new home in Cuernavaca, Mexico. Among those present for Alumni Day were: Mich and Mrs. Bawden, Cac and Mrs. Clarke, Bob Cook, Ed and Mrs. Delany, Chick and Mrs. Dubé, Harry and Mrs. Goodman, Bob and Mrs. Haskel, Irv Jakobson, Mel

and Mrs. Jenney, Phil Johnson, Paul and Mrs. Johnston, Harold and Mrs. Johnston, the late Ambrose L. Kerrigan, Chick and Mrs. Kurth, Leon and Mrs. Lloyd, Ted McArn and his sisters, Ed and Mrs. MacDonald and their guest, Bob Miller, Don and Mrs. Morse, Phil Nelles and his daughter, Pat Nelles Oram, Larc Randall, Harry and Mrs. Rosenfield, Steve and Mrs. Seampos, Saul and Mrs. Silverstein, Ted and Mrs. Steffian, Harold Stose, Bill and Mrs. Wald, Al and Mrs. Wechsler, Dinnie Whelan and his daughter, Anne Whelan Dennison.

Richard H. Morris, affectionately known as "Mr. Plant Engineer," has retired as editorial director of the Technical Publishing Company of Barrington, Ill. He was the first editor of "Plant Engineering" and he has been editorial director of the company since 1952. A cordial note from Dick, which arrived just too late for inclusion in last July's notes, said that he and Marion were leaving to attend the Sixth World Power Conference in Melbourne, Australia, as press representative of the U. S. National Committee. They will stop in Honolulu, Tahiti, Samoa, Fiji and New Zealand on the way. They plan to continue along the China Sea to Japan and return through India and the Middle East, North Africa and Europe, taking some two years for the trip. In Japan, Dick will participate in a conference of the Nippon Management Association and in New Delhi, he has been invited to take part in another management association conference. On their return, the couple will live in California, where Dick will serve as western editor for his company.

... **Elliott B. Roberts** wrote a fine letter to Ted Steffian from his home at 4500 Wetherill Road, Westmoreland Hills 16, Md. "Mr. Electronics of the Coast and Geodetic Survey," writer and photographer, Elliott says "The 1921 notes end with the injunction 'please write,' so here goes: After more than 40 years with the Coast and Geodetic Survey, with duty in all parts of the United States, Alaska and the Philippines, I have now retired with the rank of captain. My last duty was as assistant director of the Bureau for Research and Development. My work included the accomplishment of hydrographic surveys and geodetic control surveys, geophysics investigations, administration, attendance on behalf of the U.S.A. in numerous international scientific congresses and membership in many organizations, including the U.S. National Committee for the IGY. In recent years I have done some writing and have published a number of papers and articles on technical subjects. My book, 'Deep Sea, High Mountain,' came out last year (Little, Brown and Company) and others are in prospect. I have one daughter and two wonderful grandchildren living in Iowa. I now know every turn of the road from here to there."

Irving D. Jakobson sent a copy of the June 15 issue of the "Maritime Reporter and Engineering News" with a kind personal note that says, in part: "I thought the attached issue of the 'Maritime Reporter' might be interesting since it shows one of our class members, **Arthur**

R. Gatewood, on the front cover and again in pictures on Pages 7 and 9. Also on Page 10, you will find a picture of 'yours truly' at the time of the launching of our last Moran tug. It is not very often that two members of the Class of 1921 have their pictures in the same issue of a magazine." Thanks to Jake, we learn that Liz Gatewood was honored as a delegate to the London International Conference of Marine Engineers. He is vice-president for the U.S.A. of the Institute of Marine Engineers, an international organization serving shipping, shipbuilding and marine engineering industries. Jake was pictured in an article on the launching from the Jakobson Shipyard at Oyster Bay, N.Y., of the 'Patricia Moran,' the most powerful New York harbor tug ever built. It's a far cry from this sturdy power plant to the graceful yachts and sailing vessels which also take shape at Jake's yard but he has achieved endless acclaim for both pleasure and commercial craft. Thanks, Jake.

Writing from his home in Madrid, Spain, **Helier Rodríguez** sent a letter to **Ray St. Laurent** and your secretary, which arrived just as we were leaving Glen Ridge for the trip to Alumni Day. We passed it around in Cambridge and you may have read it, but we will reproduce it here in part for those who haven't seen it: "At this time of the year that we might call the reunion season, I cannot help thinking of my good friends gathering in Cambridge and of the many pleasant occasions I spent in their company with the spirit of schoolday companionship. I am not quite sure that this letter will reach you before you go to the reunion, but if it does, please remember me to all my friends. My thoughts will be with you all and I shall hope to attend the next one. A few days ago, I had a visit from Dr. Robert S. Harris, '28, of the Food Technology Department. He attended a scientific meeting in Zurich and another in Edinburgh and, knowing that I was here, he stopped over two days to get some idea of Madrid and its surroundings. I expected to have the pleasure of a visit from Lobby and Conchita this summer but, unfortunately, they had to change their plans. I would have liked to be with you this year especially to be at the farewell reunion for Lobby. All Alumni are going to miss him.

"Since it has not been possible for me to be with you last year or this one and, since it is the classical custom for people on the American continent to come to Europe for a summer trip, I am hopeful that any of my friends following that tradition may find it of interest to come through Madrid, call on me and have a free guide for visiting museums (of which there are many) and other places of interest. Graciela joins me in sending our fondest regards." Helier and Graciela have not missed many reunions and we hope they make good on that promise to come next year. Ray and Helen St. Laurent were also unable to be present for the first time in memory, since they were visiting the West Coast, the Seattle Fair, Canada and Alaska. We saw Ray at the Alumni Officers' Confer-

ence in September and he had more letters from Helier. We will record these letters and the Conference proceedings in a later issue. . . . An announcement from the Viking Press, 625 Madison Avenue, New York 22, N.Y., says: "Friends and acquaintances of **David O. Woodbury** will be interested to know that we are publishing 'The Great White Mantle' on September 28, 1962. It is available from all bookstores or direct from us at \$4.95." Please watch the book section for The Review's review. We also have a long letter from Dave, describing the pleasures and perils attendant upon the building of the home that he and India have just completed in Ogunquit, Maine. We'll present it next month.

It is with deep sorrow that we record the loss of four members of the Class of 1921 and express to their families sincerest sympathy from all of us. **Edgerton Merrill**, Course X, died at his home in Washington, D.C. No details have been received. He had been associated some years ago with the Grain Marketing Company, New York City, as a floor trader on the New York Produce Exchange and was later with Callaway, Fish and Company in New York. He served in World War I as a private in the Marine Corps and in World War II as a colonel in the Army. . . . **Lloyd French Hoops**, Course X, died at his home in Middletown, Conn., on May 21, 1957. He had been the superintendent of the State Veterans Home in Rocky Hill, Conn. During World War I, he was a second lieutenant in the Aviation Section of the Signal Corps and a student at the M.I.T. School of Military Aeronautics. . . . **Phillip Francis Breen**, Course XIII, died at his home in Los Angeles, Calif., on January 7, 1962. No further information is available.

Ambrose Lawrence Kerrigan, who received his bachelor's degree with us in Course VI, died on August 8, 1962. Amby, who was in perfect health when we talked with him last Alumni Day, had retired in 1960 after 36 years with the Fitchburg Gas and Electric Light Company, of which he had been general superintendent of all operating departments. He was born in Woburn, Mass., on December 1, 1898, and prepared for Technology at Woburn High School. At the Institute, he was a member of Phi Kappa, the Electrical Engineering Society, Catholic Club and its secretary, and the class baseball team. In World War I, he was a private in the S.A.T.C. at M.I.T. On graduation, he attended the Coast Guard School and then served with the Army, retiring as a captain. He was associated with the Tenney Corporation before going to Fitchburg. In 1942, he was ordered to Fort Monmouth for the mobilization of the 902nd Coast Artillery Reserve, in which he was a major. He was discharged three years later with the rank of lieutenant colonel. He leaves his wife, the former Marion E. Condon; two daughters, Mrs. Richard Vollmen of Pittsburgh, Pa., and Mrs. Ronald Sundstrom of Anaheim, Calif.; a son, James M. of Fitchburg; two sisters, Mrs. Elizabeth Moynahan and Mrs. Ann Hanlon, of Winchester; and two grandchildren.

During the winter months to come, your secretaries will be delighted to receive your news and will gladly help you locate classmates or other Technology Alumni near your home or in your retirement area. Happy Thanksgiving.—**Carole A. Clarke**, Secretary, c/o International Electric Corporation, Route 17 and Garden State Parkway, Paramus, N.J.; **Edwin T. Steffian**, Assistant Secretary, c/o Edwin T. Steffian and Associates, 376 Boylston Street, Boston 16, Mass.

'22

Little did your secretary and his bride of many summers realize the good fortune that lay ahead when they left Buffalo on June 6, 1962 to attend the famous 40th Reunion of the Class of 1922. The beautiful Buffalo weather extended along the thruway and turnpike to the overnight stop at Springfield and on to Route 128. After luncheon at Gloucester House on Seven Seas Wharf and photos of the Gloucester Fisherman, the journey continued through Manchester, Beverly, Salem, Marblehead and to Swampscott's New Ocean House. Here friendly greetings boomed across the bay to Nahant as Class President **Parke Appel** and Madeline welcomed classmates. They also made room assignments and provided schedules of meals and activities. An open bar in Hospitality Room 103 provided pre-prandial and post-prandial effervescence as the first day of reunion progressed. The New Ocean House was ideal for our purpose with its lovely ocean front and sandy beach, a clear blue swimming pool with benches, chairs and mats, the long rocking-chaired porch and the comfortable, relaxing lobby with shops and visiting nooks. The Pitch and Putt Golf Course at the rear was convenient and challenging—especially before mowing. The tennis courts were being readied and in constant use by many internationally known amateurs in the class. The meals were excellent with varied menus and most satisfactory service. In fact, the table groupings helped us to get better acquainted with the various members of the class and their lovely wives.

The main activities included golf tournaments on the better courses of the area arranged by **Yard Chittick** and on the Par Three Golf Course at the New Ocean House under the supervision of **Fred Dillon**. **Sam Vadner** herded the tennis players through a series of startlingly fine sets and **Herb Ham** sparked a particularly thrilling horse shoe match with about 30 participants. **Frank Kurtz** operated a great bridge tournament after special award movies had been shown by **Oscar Horovitz** and class pictures of many red shirts by **Parke Appel**. **Clayt Grover** showed his combination of class movies from early reunions and also took up-to-date shots of the sunburned, happy faces of those present. A most successful bus trip on Friday was conducted by **Bill Mueser** to Gloucester and the Rockport art colony. This was a must for the photographers and those who enjoyed the

paintings of the local artists. **Parke Appel**'s friends were most generous hosts to the class and even provided our charming guide. **Dewey Goddard** took us on a bus trip on Saturday to colonial Salem, Marblehead, and the Saugus Iron Works Restoration. The water was turned on at the Saugus Works so that we could see the bellows providing air for the blast furnace and the water operated hammers for forging. We are indebted to the committee for this splendid view of early iron-making.

As predicted, the outstanding thrill was to visit with other members of the class and bring ourselves up to date on their activities and peregrinations. **Horace McCurdy**, who was voted in as a life member of the M.I.T. Corporation during the reunion, brought us up to date on Puget Sound, the Museum, and Lockheed Aircraft Corporation and his help with the Seattle World's Fair. **Jack Molinar** looked especially fit as we learned that he was vice-president of the Union Twist Drill Company of Athol. We found that **Oscar Horovitz** had received 59 awards in the movie and photographic field in national and international amateur film competitions. These awards were won in England, Scotland, Portugal, France, Italy, South Africa, Australia and Japan as well as the U.S.A. His latest film "Ageless India" is the winner in the Better Home Movie Making Cine Circle competition. **Dale Spoor** told of retiring from the Air Reduction Company and settling in Richmond, Va., with a teaching assignment at the University of Richmond in marketing and advertising. Dale is also serving the local historical museum. **Al Sargent** has the distinction of being married to the most recent college graduate. His wife, Frances, received her degree from Boston University on June 3, 1962; their daughter Marilyn had just returned from her 10th reunion at Smith College and their son Albert has attended Maine University.

Prizes were awarded at Saturday night's banquet for Friday and Saturday golf to **Hugh Shirey**, **Bob Tonon**, **Sam Reynolds**, **Chuck Tyson**, **Saul Copellman** and **Yard Chittick**. Prizes in tennis went to **Frank Kurtz**, **N. Conant Webb**, **Sam Vadner** and **Don Carpenter**. The best horse shoe pitcher was **Jack Liecny**. **Whit Ferguson** won the pitch and putt golf tournament by a closely shaved divot. Special awards were made to **Horace McCurdy** for first marriage; **Barrett G. Hindes** for coming from greatest distance; **William Elmer** for the youngest child—age four; **Chuck Brokaw** for twins—age 6; **Tommy Thomson** for most grandchildren—7; **Clayt Grover**, a Service Award for his pictures; **Ab Johnson**, Most Popular Fella; **Ev Villet**, for honesty as treasurer!; **George Dandrow**, outstanding Big Member; and **Don Carpenter**, most ardent class representative.

We were especially honored to have Dr. and Mrs. Killian and President and Mrs. Stratton with us Saturday afternoon and evening. At the banquet, President Parke told us of the facts and figures of the class, including 100 presidents and board chairmen, 100 club or class officers, with eight members having been

members of the Corporation. Forty members have been honorary secretaries, three were on the Alumni Fund Board and we have had 50 presidents of M.I.T. Clubs around the world. He told of setting our sights high at the 35th Reunion and of the five-year experience in being able to announce the largest gift ever made by an M.I.T. class and probably the second largest of its kind ever given at any college, in the amount of \$736,940. He said that \$600,000 would endow a Class of '22 professorship, the first holder of which will be Dr. John Wulff, Professor of Metallurgy. The remainder is made up of designated gifts by class members for specific purposes. The response was made by Dr. Killian in appreciation of this gift, and he told of the impetus given to other classes in raising their sights for future gifts which would multiply many times the amount of our gift by its effectiveness on others. Dr. Killian also mentioned members of the class who had served on the Corporation, including **Fred Blackall**, **Ted Miller**, **Fred Koch**, **George Dandrow**, **Crawford Greenewalt**, **Don Carpenter** and **Duncan Linsley**. President Stratton, in thanking the class for our gift and telling of the various changes recently made at M.I.T., announced the nomination by his colleagues of Dr. Wulff to the M.I.T. Class of 1922 Professorship. Dr. Wulff immediately became the temporary Class baby and was robed in his red shirt by Sheriff Dandrow. Because the head that wears the crown is somewhat uneasy, Dr. Wulff was presented special 1922 pillow cases, signifying that his was a 24-hour job. A response by Dr. John conformed to the designation given him "for he's a jolly good fellow." We were all delighted and honored to have Dr. Wulff as our first chair. As an interim note, **Parke Appel** and your secretary called on Dr. Wulff in September to find that he had been quite ill during his European trip following the reunion and had been flown back to the United States for a serious operation. We happily report that he has fully recovered and hopes to be back on full schedule at the opening of classes. We wish him a wonderful year.

On Sunday afternoon, a large delegation moved to the dormitories near the President's home and ended the day with a class dinner in the true tradition at the Faculty Club with songs, speeches and friendliness. Several new members joined us here including Mr. and Mrs. Edward A. Merrill of Houston, Mr. and Mrs. Laverty of Ithaca and **Norman P. Randlett** of Laconia. We were also joined by Mrs. Sam Reynolds, Mrs. Shirey and the **Lobdells** and **Chick Kanes**. . . . On Monday we enjoyed a luncheon together in the Great Court, visits to the various departments and the symposium on 'Revolution in Education.' We were the heroes of the luncheon when **Parke Appel** gave a short talk and announced the record Class Gift of \$736,940. Dr. Wulff was also introduced. We were also together for the reception in the Armory and had good tables (because of our age!) for the Alumni Banquet in Rockwell Cage. Looking back on this experience makes it a time to remember and one never to

be missed. Be sure to save this date in 1967, but do not miss our annual reunions at the Institute on Alumni Day of the intervening years. Our following issues will pick up other facts and figures and bring up to date the notes on current class experiences. . . . Regards to you all from the 82 class members and their wives attending the Famous Fortieth. Thanks to President Parke and his Committee, the Fortieth was The Best.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo 3, N.Y.; **Oscar H. Horovitz**, Assistant Secretary, 33 Island Street, Boston 19, Mass.

'23

The following members of our class attended the Alumni Day functions last June: Mr. and Mrs. Edward S. Averell; Mr. and Mrs. Miles N. Clair; Mr. and Mrs. Hugh S. Ferguson; Arthur W. Gerner; E. Louis Greenblatt; W. B. Greenough, Jr.; Mr. and Mrs. Herbert L. Hayden; George A. Johnson; Mr. and Mrs. David B. Joy; Mr. and Mrs. Egon E. Kattwinkel; David Kaufman and guest Miss Michele Valentine; Charles S. Keevil; Mr. and Mrs. Elliot P. Knight; Mr. and Mrs. Hyman F. Marshall; Mr. and Mrs. Harold C. Pearson; Mr. and Mrs. Howard F. Russell; Mr. and Mrs. David W. Skinner; Mr. and Mrs. Julius A. Stratton; Mr. and Mrs. A. M. Valentine and guest Miss Carla Valentine; Dorothy W. Weeks.

Information about our 40th Reunion in 1963 at the Chatham Bars Inn has been sent out to more than 600 members of the class. If you did not receive your copy, possibly the address is at fault and you should contact your class secretary. . . . The NAM News of August featured a picture of our 35th Reunion master of ceremonies, **Ed Schmitz**, who is assistant to the president of the Union Fork and Hoe Company. The occasion was the presentation of a plaque honoring his long membership in the NAM (in this case 29 years). . . . Announcement was made in June that our good friend, **William (Bill) Lyman Stewart, Jr.**, was elected chairman of the board of the Union Oil Company of California. Congratulations Bill for a job well done. Bill joined the Union Oil Company directly after graduating from the Institute, became a director in 1926, a member of the executive committee in 1929 and executive vice-president in 1942.

In July, **Eger V. Murphree** was named research policy co-ordinator for the Standard Oil Company of New Jersey. He is also a vice-president of the company. In his new post, Murphree will have the responsibility for co-ordinating the worldwide research policy matters of Jersey Standard, including those involving Esso Research and all other affiliates. He will retain his present position as president of Esso Research and Engineering Company. He joined the organization in 1930, and his first assignment was in Baton Rouge, La., where he helped develop chemical processes using petroleum as a raw material. Murphree became na-

tionally prominent when he was named chairman of the planning board instrumental in setting up the Manhattan Project in 1942. In 1950, he was named to the general advisory committee of the Atomic Energy Commission, a post he still holds. He has also served as special assistant to the Secretary of Defense for guided missiles. He holds 34 patents in a variety of technical fields, is a member of the National Academy of Science, American Chemical Society, American Institute of Chemical Engineers, American Physical Society, Society of Chemical Industry, and other organizations. . . . If, by any chance, you have bats in your belfrey, mice in your rice, or bees in your trees just call on one of your classmates, **Joe Fleischer**, and he will take care of the situation. Joe is president of a new firm Certified Pest Control Company, Inc., and says "that it costs less to prevent pests than to exterminate them. For that reason, our services emphasize scientific methods of prevention and control."

This past spring, **Earle A. Griswold** was elected to the board of trustees of American International College. Besides being executive vice-president and a director of Tampax, Inc., Earle is active in many fields. . . . **Chaplin Tyler** has been elected a director of the Delaware Investment Company, Wilmington, Del. Chaplin is management consultant for the Development Department of E. I. du Pont de Nemours. . . . **John L. Brill**, Director of Research and Development of the DuPont Company's Film Department, retired in May after 38 years of service with the company. John joined DuPont in 1924 as a research chemist at the Experimental Station in Wilmington. He worked on problems of high-pressure synthesis, and in 1926 assisted in the start-up of the Belle, W. Va., Works, which produces ammonia by this process. Later he helped design a semiworks for synthesis of methanol and higher alcohols and then was assigned to Belle as assistant director of the new semiworks. In 1930 he went to England as a technical representative of the old Ammonia Department, and a year later became special assistant to the chemical director of the department. He organized and directed a program of economic analysis which since has been adopted by other departments. In 1937 and 1938 he assumed additional duties as director of the Ammonia Department's Experimental Station laboratories. He became assistant to the production manager of the Ammonia Department in 1941, and during 1942 was in charge of the department's work with heavy water, a part of the wartime atomic energy program conducted for the federal government. He was named chemical director of the Plastics Department in 1943, and the Film Department's research director in 1950.

We received a nice note from Mrs. **Ida B. (Adelberg) Webster** a short time ago. She has been busy with her architectural work on several housing projects in the New York area. Besides being an architect of note she is married to Morton Webster, a Wall Street bond broker, has two children (a boy and a girl—both mar-

ried) and three grandchildren—all boys. Currently Ida is director of Citizens Housing and Planning Council. . . . **Roy George Rincliffe**, President of the Philadelphia Electric Company, was awarded the 1962 Dean Award of the Philadelphia Press Association last spring. The award, named in honor of the old-timers of the local newspaper business, is an annual recognition by members of the press of a distinguished service to the community. In presenting the award, Henry W. Messaros, President of the Association, said Mr. Rincliffe was selected "in recognition of a great contribution to civic progress through a sustained campaign by the utility to acquaint the world with the advantages of doing business in the Delaware Valley area, and for continued co-operation with the press."

We regret to report the following deaths: **Leonard J. Brooks** died on June 8 in the Heywood Hospital in Gardner, Mass., following a long illness. Leonard was a life-long resident of Templeton and was a retired industrial engineer. He last worked for the Quabkug Rubber Company, in North Brookfield. . . . **Edward J. Danehy** died suddenly on July 7 in Cambridge. Ed was assistant superintendent of the Cambridge schools, a U.S. Navy veteran, a charter member of Post 27 of the American Legion, a director of the University Trust Company, and the North Cambridge Cooperative Bank, and was active in the B.C. Club of Cambridge, the M.I.T. Catholic Club and St. John's Holy Name Society. Ed had been a member of the Cambridge School Department since 1924. . . . Rear Admiral **Wallace R. Dowd** died on April 22 in Sonoma, Calif. . . . **H. James Kerr** died on December 23, 1961, at Royal Palm Beach, Fla. . . . **Charles R. Myers, 2d**, died on May 3 in Camden, N.J.

We wish to announce the following address changes: Professor **William P. Allis**, NATO Scientific Affairs Division, Place du Marechal de Lattre de Tassigny, Porte Dauphine, Paris 16, France; **Edwin H. Arnold**, Greene, Rhode Island; **Jason T. Bickford**, 11 Mt. Pleasant Street, Nashua, N.H.; **John L. Brill**, RD #3, Newark, Del.; **John D. Cochrane, Jr.**, 1101 Aqua Lane, Fort Myers, Fla.; **Arthur W. Davenport**, P.O. Box 574, Virginia Beach, Va.; **Felipe Diaz-Ossa**, Joshua B. Powers, Inc., 551 Fifth Avenue, New York 17, N.Y.; **Harold V. Harper**, 1301 Groveland Avenue, Venice, Fla.; **Anton W. Hosig**, R.R. #1, 23 North Street, Fostoria Ohio; **John B. Nason, Jr.**, 1126 Pinewood Drive, Pittsburgh 16, Pa.; **Gabriel Nathan**, 1169 Norton Drive, Far Rockaway 91, N.Y.; **Roger E. Valentine**, Box 428, Tsumeb, South West Africa.—**Herbert L. Hayden**, Secretary, E. I. du Pont de Nemours & Co., Leominster, Mass.; **Albert S. Redway**, Assistant Secretary, 47 Deepwood Drive, Hamden 17, Conn.

'24

Seems only yesterday that summer was just around the corner and now, all of a sudden, it's gone. Is this speedup

of the seasons a function of advancing years? I'm not at all sure it is, but in any event, there just isn't enough time for all the things that need doing, even for an ergophobe such as your secretary. Probably **Frank Billings**, our expert geriatrician, has the answer.

Highspot of the summer, as far as your secretary is concerned, was attending the 60th birthday party of **Andrew Pierce Kellogg**. The Kelloggs were vacationing in Westport, just below New Bedford, and since these parts are filled with relatives and friends, it turned out to be a major affair and a whale of a lot of fun. . . . You will remember we told you sometime ago that **Chris Conway's** wife had died after a long illness. Now comes the welcome news that Miss Mary Pauline Ball and Mr. Christopher Michael Conway announce their marriage." It took place in Pineville, La. They are back in New York long since, living on 12th Street. . . . In June, **Harold Hazen**, back from his tour as interim president of Roberts College in Istanbul to pick up the reins as dean of the Institute's Graduate School, received the nation's highest award in engineering education. At the Air Force Academy he was presented the Lamme Medal of the American Society for Engineering Education "for his pioneering contributions to the development and enhancement of the art of teaching and for the leadership in the development of engineering faculties at universities in the United States and abroad." Harold, by the way, had word in July from Professor **Antonio Rosado**, not to be confused with our other **Tony Rosado (Jr.)** who left Cuba in the early days of Castro's regime. This Tony had been a professor of electrical engineering at the University of Havana for years. He finally threw in the sponge and was looking for something in this country. Harold thought he could help him.

And while we're on the subject of Cuban exiles, **Mike Amezaga** has a new job. He is international director for Creamery Package. Early this summer he was at headquarters in Chicago getting the word, then left for Barcelona. He will be in Europe for a few months, then return to either Chicago or New York to take care of other markets from there. Mike's son-in-law, Rafael Talaver, is also doing all right. He has been in Spain for W. R. Grace, now goes to Brazil to run their companies in that country. It's wonderful to see our Cuban friends make such remarkable comebacks after having their lives so completely disrupted. . . . Another man with a new job, and one that will probably have plenty of challenges, not to say headaches, is **Bill Correale**. Bill is now the technical director of a team which will spend the next three years revising New York's 25-year-old city building code. With all the new materials and methods that are popping up every day, he has to be more than a good engineer. He also has to be considerable of a seer. . . . Mrs. **Hugh Perrin** (nee **Helen Baxter**) was an architect and model maker for years. The Perrins have lived in Washington, D.C., for some time now, and on the side she

sold a bit of real estate. Now, having been elected to the Washington "Million Dollar Sales Club," she has deserted architecture entirely, leaving that up to Hugh. "As you can see, the change of administration was very good for my business." By way of advertising, or maybe we should say "offering her services," Helen stands ready, able, and willing to help any of you with housing problems in that area. She's in the D.C. book.

At the Fourth Alumni Officers' Conference in September, we were well represented by President **Blay Atherton**, Treasurer **Ray Lehrer**, **Dick Lassiter**, who is an Educational Counsellor, **Emerson Van Patten**, who is both an Educational Counsellor and president of the Milwaukee Club, and your secretary. We took advantage of the occasion to hold a few conferences, the results of which will soon be apparent. Late last spring there was another visitor to the campus, **Kenneth B. Walton**, whose Kents Restaurants in Atlantic City have been serving "Fine Food at Sensible Prices Since 1903." With Mrs. Walton we toured the Institute. Ike has never been to a reunion, but he swears he's coming up for our 40th.

The summer saw the passing of three more classmates. **Elkono Honigman** died at his home in Montclair after a short illness. He was born in Russia and went to Harvard before joining us in our junior year. Elko was a design engineer for the City of New York for some years, then became the owner of the Air Refresher Manufacturing Company in the Bronx. . . . In August, we learned of the death of **Calvin F. Reed**. Cal went to Brazil shortly after graduation, returned to this country for a few years, then went back to Buenos Aires where he became Armour's general representative for South America. . . . This is very belated, but we have just had news that **Hubert G. Ripley, Jr.**, architect and interior decorator in Boston, passed away in December, 1960. . . . So begins another year. —**Henry B. Kane**, Secretary, M.I.T., Room 1-272, Cambridge 39, Mass.

'25

It seems appropriate that this month's report endeavor to place certain events in their proper sequence, which means leading off with a report of attendance at Alumni Day on June 11. The class was not as well represented as in previous years, but those who did attend found the event quite enjoyable. Appearing at some or all of the scheduled affairs were Willard Allphin, Bill Asbury, Charles Cooper, Maurice Freeman and his wife, Sam Glaser, Mr. and Mrs. Dave Goldman, Mr. and Mrs. Bob Hodson, Jim Howard, Ed McLaughlin, Ed Kussmaul and his son, Wesley, and yours truly and his wife.

A number of deaths have been reported during the summer months, and it is my duty to report them to the best of my ability. **Roger G. Buzzell**, who resided in Summit, N.J., passed away on February 24, 1962. . . . The Springfield,

Mass., Union reported on April 21, 1962, that **George H. Simonson** was found dead in his car on Friday, April 20, 1962, death being due to asphyxiation from carbon monoxide poisoning. He had lived in the Springfield area for about 25 years and had been a mechanical engineer at the Bausch Machine Tool Company. He had attended the University of Cincinnati before coming to the Institute, and had taken Course VI-A at M.I.T. . . .

Herbert H. Taylor, Jr. died at the Evanston, Ill., Hospital on April 25, 1962. Herb had been residing in Lakeland, Fla., for the past two or three years and had gone back to his home state of Illinois for treatment for cancer. This information was supplied the Alumni Association by Nelson F. Wilmot, '26. As most of you know, Herb for many years was an executive with the Franklin County Coal Company with his headquarters in Chicago. . . . **Robert F. Pond**, who resided in Westwood, Mass., passed away on June 22, 1962, according to the Boston Globe. . . . **Gabriel E. Rousseau** and his wife were killed in a head-on collision at Ste. Helene, outside of Montreal, Quebec, about July 15, 1962. It was not clear from the news clipping just where the Rousseaus were making their home at the time of their deaths. The class records indicate he was with UNESCO in Paris, while the news clipping states he was technical advisor to the Youth Department of the Canadian Provincial Government, and states further that they were residents of Quebec City.

On the more pleasant side, it can be reported that **Jim Howard**, Manager of the Control Products Division of the Standard-Thomson Corporation, manufacturers of temperature control components for the aircraft, automotive and home appliance industries, was elected a vice-president of the corporation last spring. Jim has been with the predecessor company Clifford Manufacturing, since 1926, having progressed through the organization from machine designer, chief engineer, sales engineer and sales manager before assuming his present position. . . . In looking over the address changes, one that excites interest is that "**Bed**" **Groenewold** has moved from Tulsa, Okla., to Sarasota, Fla. It is hoped that we will have more information regarding his move later on this year. . . . Word has also come through that **Ted Coyle's** retirement has been announced by the Metal and Thermit Corporation. Ted is one of the leading authorities in the electroplating industry and has been associated for more than 30 years with Metal and Thermit and its former subsidiary, United Chromium, Inc. He was closely connected with many important developments in various plating processes, especially chromium plating, and has traveled widely in the United States and in Europe in connection with the installation of processes and products, many of which had been developed under his supervision. . . . The Class of 1925 was well represented at the Fourth Alumni Officers' Conference held in Cambridge on September 7 and 8. President **Fred Greer** was on hand, as was your secretary; and, in addition, **Charles Cooper**

and **William Wheeler** were here as Educational Counselors; and **Mac Levine** and **Sam Spiker**, as Alumni Fund Representatives. It was pleasant to have a reunion of sorts at this very pleasant event. —**F. L. Foster**, Secretary, Room 5-105, M.I.T., Cambridge 39, Mass.

'26

This is our last weekend as summer residents out here at Pigeon Cove, and it has been a short one because of the Alumni Officers' Conference Friday and Saturday at the Institute. Arriving back in Rockport about 6 P.M. Saturday, I swung around by the Yacht Club before going home and the timing was perfect. **Eliot Bidwell** had just stopped at the club to see if by chance I happened to be there. I prevailed upon Eliot and his wife to come over to the house, and we had a cocktail on the terrace overlooking the sea on one of the most beautiful evenings of the year. They were returning from a motor trip "down East"—Maine, Nova Scotia, etc., and were en route to visit their son, John B., '56, who is working for a graduate degree in City Planning and lives in Milton, Mass. The conference referred to above was the fourth in eight years. Its objective was to acquaint alumni officers with the Institute as it is today and with the full range of alumni activities. Other classmates who attended were Class Agent "Pink" Salmon, Bob Dawes, Louis Darmstadt and, of course, Jim Killian. I'm sure that being located in Boston and attending Alumni Council meetings regularly, I am more up to date than most of you with happenings at the Institute. I see the new buildings go up and I hear about new programs. In spite of this my eyes were opened by what I learned this weekend. The rapidity with which the Institute is adapting to changing conditions is almost unbelievable. A good part of this is due, of course, to the resources made available by the Second Century Fund, but I had no idea we would see things happening so fast. Undoubtedly, one of the major reasons for the Fund's success were its sound objectives. Buildings are one thing but they exist only to carry out an educational program. To be on top of the needs of a rapidly changing scientific world and economy requires fast footwork and large bodies normally adapt slowly. Not so with the Institute, and may it always be this way. New housing for married students and a fine women's dormitory are typical examples of meeting the new conditions. Even parking has become a major problem, making the construction of parking garages necessary. I'll not go on about physical facilities because you can read about them in other pages of *The Review*, and I was really more impressed by the educational facilities. It's not easy to stay ahead in an area these days, but you may be assured that your good old Institute is not only staying ahead but is planning for the future to keep the lead. . . . There was a reception at President Stratton's house on Memorial Drive on Friday. The Sailing

Pavilion is just across the street. Joe Duplin, assistant sailing master, went to the Star World Championship in Portugal last week to crew for Paul C. Woodbury, '27, a member of our Star fleet in Rockport. I dropped by the Sailing Pavilion and found that Joe had returned, and I picked up all the dope. Seventy-nine boats from all over the world were racing. Paul and Joe were in seventh place until the fourth race when they broke a mast. Even missing this race they still came in 31st, which is not bad in a fleet of this size. I've just sold my Star boat having found it a bit too acrobatic for a guy with a sacroiliac—also a bit too competitive for a guy who took up sailboat racing at 50. There is nothing like a sailboat though—it's so clean, quiet and exciting when you race. I don't plan to give it up.

We had dinner with **Pete Doelger** and his wife the other night. He is an extremely proud new grandfather (still no gray hair) and is leaving shortly for Italy, where his daughter lives, to attend the christening. Pete is having plans drawn for a new house in Folly Cove which is the next cove north from here. I heard the other day that Bob Hershey, '23, has bought a beautiful home on the ocean front here in Pigeon Cove, about half way between our place and where Pete is building. I'm often surprised when I hear that members of other classes read these '26 notes because they have become interested in Pigeon Cove. The other evening at one of the summer season's wind-up cocktail parties, the lady who runs the local bookstore told me that her son-in-law, Charles Dubov, '43, who lives in Kansas City is a regular reader. When I learned at the Alumni Officers' Conference that it costs *The Review* sixty bucks a page to prepare a page of Class News I decided to look up Volta Torrey, Editor and Publisher of *The Review* to see whether these notes are too far from the basic objectives. Either Volta is a very understanding man or very polite, but he said that if the class likes them, it is the way to write. Lucky thing because I can write no other way. Volta told us that no other college alumni magazine publishes as many Class Notes as *The Technology Review*—some of them just publish lists of job changes, deaths, grandchildren born, etc. . . . Now I must dash over to the Yacht Club and help the young lad who bought my boat put it up for the winter. I didn't even get into my envelope marked 'Class Notes' but don't let that discourage you from writing. It's going to be a long cold winter and by the time I hear from you I'll need your help. A happy Thanksgiving to all.—**George W. Smith**, Secretary, c/o E. I. du Pont Company, 140 Federal Street, Boston, Mass.

'27

The Class of 1927 has had seven reunions including our 35th held this June. We could not have been more fortunate than to have had all seven handled by just two dedicated class-

mates. They are, of course, **Bob Bonnar** and **Glenn Jackson**. Each five years one takes the chairmanship of the reunion and the other the treasurer's job; next time they switch titles, but they really do the work (and there is plenty of it) on a co-op basis. Here is Glenn's report of our 35th: "Class of 1927—35th Reunion, June 9, 10, 11, 1962, Oyster Harbors Club, Osterville, Mass.: Thursday night, June 8, saw the arrival of the Reunion Twins, Jackson and Bonnar, a day ahead of time, giving them a chance to go over the planning with Don Church, club manager, our wonderful and efficient host for the last three reunions. This extra evening gave the chairman and treasurer a few moments to arrange the weather schedule as well and, we might add, it came out perfect—a glorious Cape Cod clear sky and light sea breeze weekend. Friday noon saw the arrival of the first golf fans anxious to get in a round of pre-tournament golf practice. By dinner a good crowd was present and during the late evening more arrived. Here is my record of those present and, if I've missed any, please write as I'd like to have this list go into our historian's files: D. C. Arnold; F. S. Badger; F. A. Bianchi; S. E. Blandford; J. R. Bonnar; J. J. Boyle; E. G. Burgess, Jr.; J. C. Burley; G. L. Calderwood; R. W. Carr; J. B. Castner; R. L. Cheney; A. J. Connell; A. G. Connolly; E. H. Damon; M. Davies; L. W. Day; E. R. deLuccia; E. H. Dodge; Edward Dunn; H. A. Emerson; H. W. Fisher; E. F. Fletcher; L. B. Grew; R. W. Hancock; R. E. Harrison; R. P. Hawkins; R. F. Hibbert; G. C. Houston; Glenn D. Jackson; G. C. Jacoby; A. P. Kauzmann; T. A. Knowles; J. A. Lyles; L. R. MacAdam; Frank Marcucella; F. A. Mesker; D. C. Metzger; C. W. Meytrott; H. A. Moineau; R. A. Nadler; W. G. Payne; L. B. Peterson; Anson Rosenthal; C. A. Sanborn; George Saliba; Barnett Silveston; F. C. Staples; Ezra Stevens; R. W. Stober; William Taggart; G. R. Taminosian; G. E. Thomas; E. W. Ward; F. W. Willcutt; Les Woolfenden; D. P. Wylie; and J. S. Yates. . . . The following had signed up and sent in their reservations but at the last minute couldn't make it: Carl Davies, Maurice James, Joe Harris and Charlie Sweet. That made a total of 58 members present.

"In fact, we caught 56 of them in a class picture which we rushed through at the last minute as the light was fading, before the Saturday night banquet. The picture came out very well but, I quietly add, we all look a bit older than the last group photo taken at our 30th. The picture is well worth the trouble and, if you want a copy, you had better write immediately to Mr. Lou La Prade, 61 Pine Street, Hyannis, Mass., and send him \$2.25. In this photo you might notice that I am holding a glass of milk. . . . We were all greatly disturbed to learn that our Class Secretary, **Joe Harris**, was confined to a hospital bed in New York City and promptly sent him a wire from Oyster Harbors. We hope the others who had planned to come were not detained by illness. Joe is better now and is home

in Bronxville working on his class notes which he has so faithfully kept up all these years. . . . A free cocktail party Saturday P.M. was a highlight before the banquet. President **Jim Lyles** presided at the banquet table, and we were very happy to observe that he failed to mention money all weekend so, in other words, he forgot business and relaxed. **Bob deLuccia** came the farthest, from Portland, Ore., (and he joined our foursome on Friday afternoon). **Dick Hawkins**, our Class Agent, gave us the statistics to date on the Alumni Fund. A vote was taken as to our distaff side at the next reunion in 1967 and, as has been standard, it was voted to be a stag meeting with no women invited. If you have any complaints please get after **Hector Moineau** and **Ed Dunn**, as they counted the votes. It was, however, pointed out that if you want to bring your wife or family you can still do it by engaging accommodations elsewhere and show up for our male functions without them. Several of the boys did that this year and were then able to have their wives with them on Monday at Cambridge for Alumni Day. A vote was also taken as to our chairman for the 40th; Bonnar will again alternate with G. D. Jackson who will be reunion treasurer. Oyster Harbors Club is engaged for 1967 by '37 and again we are faced with going elsewhere so, on Sunday night before we left, **Jim Castner** and myself spent some time with the manager of the Wianno Club. He can accommodate us in 1967, but cannot make the reservation firm until two years before that date. In the meantime he has listed our class as first option on that weekend. Jim and I found the club attractive and with all the facilities we will need. No rates were discussed. We will check further after we get class officers' opinions. Please write Bob Bonnar or myself.

"**Ernie Dodge** attended his first 1927 reunion and said he wouldn't have missed the others if he knew they were so terrific. Although we gave him one prize, we are planning to send him another prize, a 25th Reunion stein, of which **George Saliba** had carefully preserved a half dozen and has now turned over to me. **Ed Dunn** also turned over to me the remaining 1927 25th Reunion Class Books. Either can be mailed to anyone sending in the cash: Book, \$4.00; Stein, \$2.00. . . . **Dick Cheney** won the prize for the youngest class member present, and Jim Castner for producing the youngest child, a sweet six-year-old daughter. When it came to the prize for the greatest gain in personal weight, it seemed to be a tie between **Les Woelfenden**, **Steam Harrison** and **Ed Burgess**, but I can't remember who finally won the decision. Our class must be a good one, as we had two members at the head table who have earned the distinction of being presidents of the M.I.T. Alumni Association, **Bill Taggart** and **Dike Arnold**. **Clarence Wynd**, although not present, is also a past president. . . . Baseball at our reunions has now been replaced with croquet and, if you think this is the kind that is played by the kids in the backyard, take another

look. **Dike Arnold** brought the professional equipment, and we got a great kick out of watching the professionals play this game. A regular elimination tournament was played with the following two-man teams competing: Marcucella-Emerson, Boyle-Ward, Lyles-Hibbert, Sanborn-Grew, Rosenthal-MacAdam, Burgess-Damon, Silveston-Wylie and Taggart-Arnold. I don't need to tell you who won—yes, the owner of the set and the instructor, **Dike Arnold** and **Bill Taggart**. The Lyles-Hibbert aggregation were runner-ups. . . . Tennis waged hot and heavy under the chairmanship of **Dick Hawkins** and our new '27 champion is **Larry Day** who took home an engraved pewter stein symbolic of this great victory. Co-chairman **Joe Burley** jumped the net and was laid up for an hour or so with a charlie-horse but recovered in time for the cocktail party. Golf under the chairmanship of **Ezra Stevens** went like a bunch of pros on the winter circuit. Twenty of us competed for the Championship of '27. Our 10-year champion, **Louis Peterson**, was dethroned by **Bob Hancock** in medal play scoring 87 to Bob's 80. This gave Bob an engraved pewter stein, and Louis won the second gross prize. **George Saliba** was third with 94 blows. In the net division, first was **Dick Cheney**, second, **Frank Staples**, third, **Bill Taggart**. Blind Bogey or Kickers won by **Glenn Jackson**, second, **Bill Taggart**, third, **Jim Lyles**. Putting contest won by **Bob Bonnar**, second, **Ezra Stevens**. Most improvement in score in 15 years was awarded to **Ray Hibbert**. Nine of the 20 contestants broke 100. In 1957, 25 scores were turned in on the same course and only five broke 100, so you can see our golf is improving with age. **George Houston** ran a great horseshoe pitching contest and **Fred Willcut** cornered this championship. **Gordon Thomas** captured second, and **Ralph Stober**, third.

"**Joe Harris** compiled the answers to questionnaires and published a 12-page summary for distribution to each reunioning '27er. **Joe Melhado**, our class historian, couldn't make Oyster Harbors because of a wedding of one of his children, but we saw him and Mrs. Melhado at Alumni Day at Cambridge. Also saw **Ed Chase** and **Clarence Wynd** at the Alumni Banquet. Sunday saw more golf and Governor Volpe of Massachusetts played around the course at the same time as we did. Afterwards we had one of the State Policemen who were with him stage a phony arrest of Jackson for running a class reunion on Sunday, and several movies of this were taken for exhibition at our next get-together. As to finances, I am sure we made some money, but **Bob Bonnar** has been on vacation the last month and is too busy enjoying himself to bother with a treasurer's report. However, when I played golf with him a week ago he said he (or his overworked secretary) would get it put together in a formal report when he returns to the office in September. This report should also mention the wonderful job **Ed Dunn** did as chairman of transportation. He published lists of who had rides to offer and to where, and who wanted rides to various cities. The net

result was that nobody was left to walk. **Ray Hibbert** handled the reception and welcoming with a smile like Santa Claus and fixed everybody up with a name badge and a free drink on the house. **Joe Burley** arranged the cocktail party and banquet with our applause. Movies and slides were shown by all who brought them, depicting our activities at previous reunions. A Great Reunion! The Reunion Committee included the following: Chairman, **Glenn Jackson**; Treasurer, **Robert Bonnar**; Sports Events: **Dike Arnold** (Chairman), **George Houston**, **Dick Hawkins**, **Ezra Stevens** and **Joe Burley**; Transportation: **Ed Dunn**; Reception and Welcome to the 35th: **Ray Hibbert**—Chief Greeter; All '27 Men, Greeting Committee; Dining: **Joe Burley**; Reunion Historian: **Joe Melhado**; and Class Records: **Joe Harris**."

Glenn also has sent us the following concerning his own activities, and **Bob Bonnar's**: "While you were in the hospital I decided to do the same thing. On Saturday, May 5, I was suddenly rushed from the golf club to the hospital and in a few hours they had me cut open for a perforated duodenal ulcer. So there you and I lay in bed and **Robert Bonnar** (or possibly his secretary) did the bulk of the work from there on. However, I was home in 12 days and played a few holes of golf 23 days after surgery, so got to work again on the details of the reunion. Actually, I think it went off very well but possibly I am breaking my arm on my own back patting too hard. **J. Robert Bonnar** has been at Westport Point, Mass., for the month of August and yesterday we got together for a golf match at R.I. Country Club, this being some sort of "a half-way point" says **Bob**. (Some half-way, as I drove 95 miles down there and he didn't drive over 30 miles. Think he should take freshman math over again). After two days of golf at Oyster Harbors, I broke even with him, and again yesterday. Can't make a buck. As for a treasurer's report, that is the last thought in his mind this vacation, and he doesn't know whether we made money or not. **Miss O'Connor**, his secretary, will come to his rescue soon." . . . We want to add our congratulations to **Bill Taggart** upon his election to the presidency of the Alumni Association. This is a signal honor for **Bill** and for us. Also our hearty congratulations to **Bob deLuccia** who has been elected to represent Alumni District #10—the West Coast.

Here are those who attended the Alumni Day exercises on June 11: Mr. and Mrs. **Dwight C. Arnold**, **Sidney E. Blandford**, Mr. and Mrs. **John J. Boyle**, **James B. Castner**, **Edward Chase**, Mr. and Mrs. **Arthur J. Connell**, **Edward H. Damon**, **Maurice Davier**, Mr. and Mrs. **Harold E. Edgerton**, **Willard S. Felch**, Mr. and Mrs. **Richard P. Hawkins**, **George C. Houston**, Mr. and Mrs. **Glenn D. Jackson, Jr.**, Mr. and Mrs. **Frank Marcucella**, Mr. and Mrs. **Joseph H. Melhado**, **Frank Mesker**, **Hector A. Moineau**, **Robert A. Nadler**, **Sara Scudder**, Mr. and Mrs. **Frank C. Staples**, Mr. and Mrs. **Ezra F. Stevens**, Mr. and Mrs.

Wm. L. Taggart, Mr. and Mrs. Frederick W. Willcutt, Mr. and Mrs. Robert Wise and Mr. and Mrs. Clarence L. A. Wynd.

Just prior to the time of our 35th Reunion, we received the following letter from **Luke Bannon** bringing us up to date on his activities: "Found the opportunity this morning to read *The Review* and, of course, the first thing being the class notes. Glenn Jackson's exuberance in writing about Oyster Harbors and the reunion is only exceeded by Jim Lyles' epistle "Jim, to the boys . . ." which was received this morning. I am truly sorry to miss this one, but at present writing it appears that I will have to forego the pleasure of again meeting with the group the quaffing a few. The particular week-end of the reunion coincides with the Thunderbird Golf Classic at Upper Montclair C.C., and I have made previous arrangements which cannot be set aside or changed. You may be interested to know that as of June 1, 1962, I plan to semi-retire to my home in Seminole County, just outside of Sanford, Fla., where I shall spend most of my time trying to develop better grades of citrus fruit, with occasional trips back to northern civilization. My fondest and best regards to all." . . . **Elwood J. Umbenhauer**, Director of City Water Utilities, El Paso, was named "Southwest Water Works Man of the Year" by the American Water Works Association at their 82nd annual conference held in Philadelphia in June. The 14,000-member association cited him for "his foresighted management of a water department serving a community of tremendous population growth and exceptionally little rainfall."

Paul S. Vaughan, Chief Engineer for diesel engine design, Alco Products, Inc., Schenectady, N.Y., was a speaker at an "Engineering for Space" symposium in Washington in May. His paper entitled "Precise Diesel-Electric Power Plants for Military Radar Installation" was presented at the opening morning session of the 42nd annual meeting of the Society of American Military Engineers, and he discussed in detail the development, testing, installation and operation of seven diesel-electric power plants built by Alco last year to supply "precise power" for radar at an anti-missile testing area at Kwajalein in the Pacific Ocean. Paul has more than 30 years' experience in the design and development of diesel engines; he has been with Alco since 1934, and has been located in Schenectady since 1944. . . . Joe Melhado's daughter, Jane Marion, was married in Scarsdale, N.Y., on June 2 to James M. Gross, '62, of Huntington, L.I. The bride attended Boston and New York Universities, and her husband was graduated from M.I.T. last year, where he is a research assistant, and expects to receive a master's degree in industrial management next January. . . . The election of **Benedicto Padilla** as acting chairman of the Philippine Tobacco Board was announced the end of May. Benedicto, who is Acting Commissioner of Internal Revenue of the Philippines, is also a lawyer and a civil engineer.

The following new addresses have been received: Professor **Harriet W. Allen**, P.O. Box 274, Nashua, N.H.; **Eldred W. Bemis**, H. K. Porter Company, Inc., Huntington, Ind.; **William F. Bingham**, 1030 So. 12th Street (Apt. 3), Lincoln 8, Neb.; Major General **Elbert L. Ford, Jr.**, 4000 Cathedral Avenue, N.W., Washington, D.C.; **Russell E. McCassey**, 2 Chilton Avenue, Kingston, Mass.; **Daniel C. Metzger**, 5 Peter Cooper Road, New York City; **Edward E. Mott**, 20 Majestic Avenue, Lincroft, N.J.; **George E. Onishi**, 727 North O'Brien Street, South Bend, Ind.; **Rene E. Paine, Jr.**, 2540 Del Lago Drive, Ft. Lauderdale, Fla.; **William H. Reed**, 824 South Ardmore Avenue, Los Angeles 5, Calif.; Dr. **Constantine S. Stephano**, Stephano Brothers, 12 South 12th Street, Philadelphia, Pa.; **Edward D. Stone**, 7 East 67th Street, New York City; and **Edward R. Vose**, P.O. Box 134, Lake Placid, Fla. —**J. S. Harris**, Secretary, Shell Oil Company, 50 West 50th Street, New York 20, N.Y.

'28

Alumni Day, 1962, was attended by Rose and Maurice Beren, Bill Carlisle, Dorothea and Jack Chamberlain, Frances and Jim Donovan, Lazare Gelin, Ethel and Thurston Hartwell, Florence and Ralph Jope, Mr. and Mrs. Clark Merrick, Carroll Smith, Walter Smith, Anna and Willis Tibbetts, and Ruth and Abe Woolf. As usual, it was a very pleasant gathering of friends and classmates. . . . Miss **Alice M. Browne**, retiring after 35 years on the Institute Infirmary staff, was made an honorary member of the Alumni Association. During the latter part of her career, she was directly associated with **Jack Chamberlain**. In view of her close association with '28, Brownie was also made an honorary member of our class. She was presented a certificate of membership at the luncheon exercises by Jack Brownie, it is we, the Class of '28, who are honored! . . . **Fritz Rutherford**, in a note to **Ralph Jope**, has announced his intention to be at the 35th Reunion in Harwichport next June. Fritz is still vice-president of Miltron Corporation in Tennessee and a consultant to the U. S. Army. The Rutherfords are mostly retired, however, and live on St. Helena Island, S.C., which is near Parris Island, the Marine Corps base. Fritz would be delighted to have any of his old VI-A associates stop off for a visit.

Onnic P. Susmeyan, VI, was appointed director of Interdivisional Services for Raytheon Manufacturing Company, according to a public relations release of June 13, 1962. This promotion recognizes many years of competent technical and executive work. He has been with the company since 1942 and prior to that was with Champion Radio Works and earlier with RCA. . . . **William Phillips**, VI, was made chief valuation engineer, a new post, by Ford, Bacon, and Davis, Inc. of New York City. Bill was formerly president and general manager of Hapman Dutton Company, Kalamazoo,

Mich., manufacturers of steam generators and heavy duty conveyors. During the war he was chief of power forecasts for the War Production Board. . . . Sylvania Electric Products, Inc., has named **Gustav Stachelhaus** to the position of manufacturing superintendent for the company's Electronic Defense Laboratories, Mountain View, Calif. Gus has been with Sylvania for about 30 years. His recent position was that of manager for the B-58 bomber program at Sylvania's Microwave Devices Division. . . . A flood of news releases and clippings have come to us as a result of **John Stack's** recent change of jobs. The reason for this, of course, is John's prominence in aeronautics and aircraft design. He had been with NASA and its predecessor agency, NACA, since graduation. After 34 years of outstanding service, he retired, then accepted his present position as vice-president and director of engineering with Republic Aviation Corporation, Farmingdale, L.I., N.Y. John has received world-wide recognition for his research work in high speed aerodynamics, development of supersonic wind tunnels, and conception of the research airplane as a tool of science. The research airplane has culminated in the X-15, which has set almost unbelievable records for speed and altitude. John shared in the Collier Trophy for 1947 for the X-1, the first supersonic airplane; he was recipient of the Collier Trophy in 1951 for solution of the transonic wind tunnel problem, and has won many other awards and honors in this country and abroad.

We regret to report the deaths of two classmates. **Lester A. Forsyth** died in January, 1961, although the news has only now come to our attention. . . . **Procter P. Wilson** died on March 28, 1962. His professional activity was that of schoolteacher. Apparently he had been in poor health for a long time.—**Walter J. Smith**, Assistant Secretary, 15 Acorn Park, Cambridge, Mass.; **George I. Chatfield**, Secretary, 11 Winfield Avenue, Harrison, N. Y.

'30

Having deposited son Robert at Lehigh for freshman week, your secretary is now forced to recognize that autumn is upon us and the notes for the November Review will presently fall due. At this time of year our burdens are somewhat lightened by the fact that a certain number of news items tend to accumulate during the three-month recess since the last issue. . . . Among the items so accumulated is an article by the Boston Traveler aviation editor on the new Dulles International Airport at Chantilly, Va., which mentions the fact that he was escorted around the airport by **William E. Cullinan, Jr.**, who is billed in the article as "director of Dulles." This is apparently a relatively recent change in locale, for Cul when last heard from (see June '61 Notes) was FAA district airport engineer in Portland, Maine. . . . Last March

John Scheuren delivered a paper on "Arctic Construction" before the Construction Section of the Boston Society of Civil Engineers. He compared construction procedures in the arctic and north temperate zones using construction at sites in Greenland and Baffin Island as a basis for his comparisons. As many of you know, John is with Metcalf and Eddy in Boston. . . . Two of the accumulated items relate to men who received advanced degrees in 1930. An article in the May, 1962, issue of Engineering News-Record describes, in virtually unintelligible language, the activities of the Austin Company. From a careful reading of this article, it appears that Austin Company has something to do with some phase of the construction industry, and that its engineering and research vice-president is **Albert T. Waidelich**, who graduated from Drexel as a civil engineer, received his master's degree with our class, and taught structural engineering at M.I.T. from 1931 to 1934. . . . **Dr. Sidney McCuskey**, Case '29, M.S. in mathematics at M.I.T., '30, is the subject of an article in the Case Alumnus (May, 1962). He is head of the Department of Astronomy at Case and has done extensive research in stellar statistics and galactic structure. His current interest is in the dynamical analysis involved in the study of satellite motions and celestial mechanics. . . . At rare intervals my conscientious but lonely attendance at M.I.T. Club class luncheons (third Monday each month) pays a modest dividend. **Marcel Aillery**, '31, who is also a regular at these luncheons, attended an ASCE water resources conference in Omaha last May and while there, met **Zeke Shannon** who is with the Missouri River Division of the Corps of Engineers. Zeke delivered the welcoming address and also acted as chairman at one of the sessions.

Address changes: **Theodore E. Bridge**, Catalytic Construction Company, 1528 Walnut Street, Philadelphia, Pa.; **William C. Dickerman, Jr.**, 6 Pinecroft Road, Greenwich, Conn.; **Webster E. Fisher**, 691 Oakridge Drive, Rochester 17, N.Y.; **Sumner L. Fuller**, 48 Camp Meeting Road, Topsfield, Mass.; **Dr. Edward M. Pritchard**, 7 Argyll Court, Scotch Plains, N.J.; **Mark T. Purcell**, 3210 Nottingham Way, Madison 13, Wis.; **Stanley G. Russell**, 52 Leonard Street, Annisquam, Gloucester, Mass.; **Robert B. Rypinski**, Space Technology Labs, 1 Space Park, Redondo Beach, Calif.; Professor **Joseph M. Shelley**, RR#1, Box 96, Glenwood Springs, Colo.; **John K. Sherman, Jr.**, 228 Charles Street, Cincinnati 15, Ohio; Mrs. **Helen L. Thornton**, Rt 52, R.D., Holmes, N.Y.—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, N.Y.; **Ralph W. Peters**, Assistant Secretary, 249 Hollywood Avenue, Rochester, N.Y.; **Louise Hall**, Assistant Secretary, Box 6636, College Station, Durham, N.C.

'31

Hope you all had a pleasant summer. Judging by the news it has been an active one for many of you. In announcing

a talk by **Gordon Brown** last spring, the Worcester Telegram said "as Mass Tech's top engineer, Dr. Brown, backed by a \$9,275,000 Ford Foundation grant, has made notable changes in curriculum and methods for engineering education and established new principles that have made him known as one of the nation's outstanding technical educators." . . .

Randy Binner writes: "We all attended the graduation at Princeton, and we now have a brand new tiger graduate in the family. Chris is going to Europe for two months and then to work for 3M in St. Paul. Two down and one to go." While in Chicago a few months ago, Randy and I had a grand time at lunch settling the affairs of the world. . . .

Emilio Collado has been elected vice-president of Standard Oil Company (New Jersey), which he joined in 1947. . . .

Jim Fisk has received a doctor of science degree from Colby. Part of the citation read by President Strider of Colby in conferring the degree said "President of the Bell Telephone Laboratories since 1959, consultant to the President's Science Advisory Committee, of which you were a member for a number of years, formerly Director of the Division of Research of the Atomic Energy Commission, and former Gordon McKay Professor of Applied Physics and a Senior Fellow of the Society of Fellows at Harvard University; you have had a long and illustrious career, in both private industry and government service, in the increasingly complex world of applied science." During the summer I ran into Jim in London and had a chance to chat for a few minutes. . . . **Ed Ducayet**, President of Textron's Bell Helicopter Company, has been named president of the American Helicopter Society. . . . Had a pleasant chat with **Hal Genrich** in Buffalo not long ago. He's tried a switch from building homes and now has built a 100-unit, \$1,200,000-motel and restaurant in the outskirts of Buffalo at exit 50 of the New York State Thruway. . . .

F. J. Herrmann, Manager, Scientific Instruments Merchandising, Broadcast and Communications Products Division, RCA, has announced a new model of RCA's electron microscope. . . . **Bill Mentzer** has been elected senior vice-president-engineering and maintenance of United Air Lines. In his new position, Bill will be responsible for all engineering and overhaul activities of the company's 282 aircraft. . . . United States Gypsum Company has appointed **Morton Plant** mechanical power and fuel technical manager.

Carl Baker, quality manager of Chandler Evans Corporation, has been named vice-president of the company. Carl joined Chandler Evans in 1960 after many years with the Hamilton Standard division of United Aircraft Corporation where he gained industry-wide prominence as quality manager and earlier as chief engineer. . . . Congratulations to **Sam Pritchard**, Supervisory Patent Classifier, United States Patent Office, who has received the Department of Commerce Meritorious Service Award (Silver Medal). . . . Our prexy, **Howie Richardson**, is now a director of Stanley

Works, Fafnir Bearing Company, Taylor Instrument Company and Burndy Corporation. You just can't keep a good man down. . . . A recent release tells of **Jim Wilson's** appointment as manager of Chemical Operations in Louisiana for Kaiser Aluminum and Chemical Corporation. Jim joined Kaiser in 1954. . . . While passing through Detroit recently, I tried to reach **Ducky Graham**. He was out but his wife, Jo, told me they are both fine.

Among those attending Alumni Day in June were, Larry and Mrs. Barnard, Gordon and Mrs. Brown, Myron and Mrs. Burr, Ralph and Mrs. Davis, Colonel and Mrs. Finberg, Hal and Mrs. Gurney, Helge and Mrs. Holst, Ed and Mrs. Hubbard, Howie and Mrs. Richardson, Gil Roddy and, last but not least, John Swanton and his wife. I was sorry to have to miss it, but business kept me away. . . . It is with a deep feeling of sadness that I report the following deaths: **David E. Bennett, Jr.**, **James R. Bird**, **Hugo G. Cuesta-Moreno**, **James R. Day** and **Fernando Royo**.

New addresses received include **Dr. Harold W. Anderson**, Route 4, Box 358, Janesville, Wis.; **John H. Arnold**, Air Products and Chemicals, Inc., P.O. Box 538, Allentown, Pa.; **Roger P. Brown**, 1109 Wyoming Avenue, El Paso, Texas; **Gerard E. Claussen**, 774 Windsor Road, Troy, Ohio; **A. Earl Cullum, Jr.**, Box 7004, Dallas 9, Texas; **Harland A. Danforth, Jr.**, 2621 La Honda, El Cerrito, Calif.; **Dr. William H. Gaub**, 1405 No. Van Doron Street, Alexandria, Va.; **Donald S. Loomis**, Apt. 304, 126 Elm Street, San Mateo, Calif.; **Richard D. Mason**, 970 Green Bay Road, Winnetka, Ill.; **Charles H. Norris**, 3915-51st Avenue N.E., Seattle 4, Wash.; **Harutun D. Rashduni**, 40 Mitchell Place, White Plains, New York; **Howard Richardson**, 2 Rock Ridge Road, New Britain, Conn.; and **Arthur C. Seelye**, R.F.D., Spencer, Mass.—**Edwin S. Worden**, Secretary, 35 Minute Man Hill, Westport, Conn.; **Gordon A. Speedie**, Assistant Secretary, 90 Falmouth Road, Arlington 74, Mass.

'32

To start the new year of Class News, we report results of the election of class officers during our reunion in June: President, **G. Edward Nealand**, Room 3-137, M.I.T.; Secretary, **Elwood W. Schafer**, Room 10-318, M.I.T.; Treasurer, **Donald Whiston**, Room 24-117, M.I.T.; and a group of area vice-presidents to provide the class with closer local contacts; Northeast, **Dr. Isaac H. Schwartz**, 32 Court Street, New Bedford, Mass.; Boston, **Robert E. Minot**, 9 Lime Street, Boston, Mass.; New York City, **Harry L. Moore, Jr.**, Pheasant Lane, Greenwich, Conn.; Washington-Philadelphia, Colonel **James E. Harper, Jr.**, 2700 South Grant Street, Arlington, Va.; Southeast, **Theodore J. Jones**, 819 West Woodlawn Avenue, North Augusta, S.C.; Middle-west, **Louis J. Vassalotti**, 127 Kenilworth Drive, Akron 13, Ohio; Southwest, **John Lawrence**, Dresser Industries, Re-

public National Bank Building, Dallas, Texas; North Pacific Coast, **Charles C. Wyatt**, 3214 16th Avenue, Seattle 4, Wash.; South Pacific Coast, **Rolf Eliasson**, 1280 Hamilton Avenue, Palo Alto, Calif.; and Western Europe, **Juan P. Serallach**, Plaza Tetuan 16, Barcelona, Spain. The new appointments of class agents for the Alumni Fund are **William B. Pearce**, 21 Chestnut Street, Sharon, Mass., and **George W. Falk**, 35 Daniels Street, Fitchburg, Mass. There were 30 classmates and a total of some 70 people including wives and children at our 30th Reunion on the Cape in June. Twenty-three members also attended Alumni Day at M.I.T. the following Monday.

News notes inform us of the election of **Stuart R. Fleming** as a director of Ford, Bacon & Davis where he is vice-president and manager of the Engineering Department. . . . **Willem Holst** has been elected vice-president and director of Esso Standard Eastern, Inc., a new affiliate of Standard Oil Company (New Jersey). . . . **Charles B. Bradley** received the A.S.T.M. award of merit in June. He is chief of physics research at Johns-Manville Research Center in Manville, N.J. . . . **Montgomery B. Ferar's** firm, Sundberg-Ferar Industrial Designers, was awarded the American Institute of Architects Industrial Arts Gold Medal for 1962 in May. The firm of Sundberg-Ferar, located in Southfield, Mich., is engaged in the design of a wide range of commercial products. . . . **Albert G. H. Dietz**, Professor of Building Engineering at M.I.T., journeyed to Adelaide, Australia, in June to receive the John W. Derham Memorial Lecture Award of the Plastics Institute of Australia, and to visit members of the Australian and New Zealand plastics industry. . . . The first award commemorating the work of the late **Walter C. Voss**, former head of the Department of Building Engineering and Construction at M.I.T., was made at the A.S.T.M.'s annual meeting in June to Raymond Davis, Director Emeritus of the University of California Engineering Materials Laboratory. The award was made possible by gifts from Professor Voss's friends, classmates and former students.

We regret to inform you of the death of **John R. McCaa** on May 29, 1962. A letter from John was published in the June issue of the Class News. He is survived by his wife, the former Helen Horton, residing at 223 Harrison Avenue, Glenside, Pa., a daughter, Marian H., and a son, David J. . . . We must also report the death of Group Captain (retired) **Charles W. Crossland** in February, 1962. He served with the RCAF until 1959 when he joined Canadian, Ltd., and was a founding member of the Canadian Aeronautical Institute.—**Elwood W. Schafer**, Secretary, Room 10-318, M.I.T., Cambridge 39, Mass.

'34

We are grateful to **Leonard Shapiro** for the following excellent account of the June Alumni Day and the members of our class attending. Class of '34 attend-

ance at this Alumni Day event was smaller than usual. . . . **Henry Backenstoss** surprised us by admitting that he has been back in the U.S. since September, 1961, and resides in Washington, D.C., where he is a power consultant. He spent an interesting couple of years at the American University in Beirut, Lebanon—which he admits he accomplished without having learned any Arabic. His wife, Nicky, however, became quite fluent in this difficult language. . . . Mr. and Mrs. **Walter Wrigley** advised that their daughter, Lois, has already finished two years at Simmons, majoring in mathematics, and she will be working at the M.I.T. Instrumentation Lab during the summer. Their son, Wallace, is a senior at North Quincy High, and will spend five weeks this summer on an NSF scholarship in biological studies at Ocean Springs, Miss. Walt's work is mostly administrative these days. He teaches one graduate course, and he heads a government advisory committee on physics instruction, in the course of which he has enlisted the aid of **Arthur O. Williams, Jr.**, who is head of the Physics Department at Brown University. Walt will travel to Switzerland this summer to present a paper before an international group on applied mechanics.

Irving Geltman and his wife were present. Irving graduated in Course VII, went on in medical studies, and is now head of Commonwealth Clinical Laboratory in Boston, and is on the staff of M.I.T. Medical Department. They have four children: Richard is a junior at Colby; Edward a high school senior, has an NSF fellowship for the summer; Kenneth, 12, and Joan, 10, are both in elementary school. . . . **Francis J. Safford** is now with Sanders Associates, Inc., working on various electronic defense projects. He lives in Nashua, N.H. . . . Mr. and Mrs. **Edward C. Taylor** were down from Kittery, Maine. Ed is working in Nuclear Power Engineering at Portsmouth Naval Shipyard. Their son, Warren, is at University of Maine, and a daughter, Priscilla, is in high school. . . . **Henry Morss**, an affiliate of our class, is a research associate in geology at M.I.T. He lives out on Marblehead Neck, where his hobby is, naturally, sailing. Henry owns a unique craft known as a trimaran (which is a catamaran with three hulls). . . . **Edward D. Rich** and his son, Robert D., managed to include Cambridge on their eastern trip from Tacoma, Wash., where Ed is president of Richaven Company (real estate and insurance). Robert has just graduated from Whitman College in Walla Walla, Wash., and is entering Jefferson Medical College, Philadelphia, in the fall. An older son, Edward P., is a C.P.A. by profession (having graduated from the University of Washington) and has made Ed, Sr. the proud grandparent of two grandsons.

Several of our classmates were present for lunch on Alumni Day but could not stay for the evening, so Leonard didn't have a chance to make as many notes on their private lives: **Si Malkin** is with Raytheon in Lawrence, Mass., and still lives in Malden. . . . **Ernie Massa** is in charge

of Massa Division of Cohu Electronics in Hingham. . . . **Dick Bell** managed to include us in an Eastern business trip, but had to leave early. He runs his minerals and chemicals business from Paris, Tenn., and his daughter in Memphis has made him a member of the Grandfathers' Club.

As for **Leonard** himself, he has rounded out four years with Beacon Chemical Industries (in Cambridge) in charge of polymer research and surfactants. Len is still writing technical papers and has presented papers on "Infra-Red Spectra of Emulsion Polymers," and "Free Radicals in Emulsion Polymerization," at the last two conventions of the CSMA (Chemical Specialties Manufacturers Association). They will both appear in early issues of "Soap and Chemical Specialties." Len, his wife, Bea, and daughter, Marjorie (sophomore at Pratt Institute, Brooklyn, majoring in art) went to Cleveland to attend the graduation of son, Joel, from Case Institute of Technology. Joel worked at the M.I.T. Instrumentation Lab during the summer, started graduate work at University of Michigan in the fall on a NDEA Fellowship.

Paul Levatin, a classmate from whom we have not heard in recent years, was mentioned in the June, 1962, Scientific American as co-author of an article entitled "Floaters in the Eye." After obtaining a master's degree at M.I.T., following his graduation in 1934, Levatin attended Tufts College Medical School, where he received his M.D. in 1939. For the past 13 years he has been associated with the Permanent Medical Group at the Kaiser Foundation Hospital. . . . The Reverend **Joseph A. Hahn**, M.M. has been assigned to the Maryknoll missions in Chile. He has recently been a member of the Maryknoll Publications Department at the Maryknoll headquarters at Maryknoll, N.Y. Father Hahn has had many years of previous foreign work, including mission work in Bolivia and South China. . . . **E. John Finnernan** has been named plant manager of the Wrap-King Division of Crompton and Knowles Packaging Corporation, Agawam. . . . **Nicholas G. Dumbros** has recently been appointed assistant to the president and chief economist of the Ohio Oil Company. . . . **H. Neal Karr** has been elected a director of the Singer Manufacturing Company.

Dr. **Fredrick L. Kilbourne, Jr.**, who received his doctorate and has been associated with our class, died in May of this year. He was manager of the Midwest Rubber Reclaiming Company's Barberton, Ohio, Plant. . . . **Robert C. Becker**, general resident manager of Chile Exploration Company, was recently decorated by the Chilean government with the Order Al Merito Bernado O'Higgins for long and distinguished services rendered to the mining industry of the country during more than 20 years of work in Chile.—**Malcolm S. Stevens**, Secretary, 9 Glenfield Road, Barrington, R.I.; Assistant Secretaries: **G. K. Crosby**, International Nickel Company, 67 Wall Street, New York 5, N.Y.; **J. P. Eder**, 1 Lockwood Road, Riverside, Conn.; **Harold E. Thayer**, 415 West Jackson Road, Webster Groves 19, Mo.

We start our third literary year with a letter from our Class President, **Leo Beckwith** which speaks for itself: "I want to thank the members of the Class of '35 for their marvelous response to the Second Century Fund Drive. It was a thrilling experience to hear our Class Gift of \$641,656.00 announced at the Alumni Day Luncheon. This was one of the largest class gifts ever made at any university! It was outstanding even if we excluded **Rufus Applegarth's** magnificent gift that sparked our drive. And, in addition, we have over \$50,000 in verbal pledges which we hope to finalize before the end of the year. It certainly is a great credit to all the fellows who worked so hard and contributed so much to it. I don't know whether I'm prouder of the total results or of the tremendous spirit and response of our classmates of '35."

"At Alumni Day it was good to see **Walter P. Green, Jr.** who was there to help his dad, Walter, Sr., celebrate his 50th Reunion. I also bumped into **Pete Grant**, who looks fine and may be moving his whole Division at Ansco from Binghamton to New York City in the coming months. **Randy Antonsen** was there and still looks like one of last year's graduates with his lean and hungry bachelor's looks. When Betty heard that Randy was still unmarried, that gleam flashed in her eye, and I could see her internal IBM clicking off the names of all the eligible females in Eastern Massachusetts. On the other hand, however, when I try to visualize Randy bald and pot-bellied like so many of the rest of us, I wonder if it's wise and perhaps it would be kinder to leave him undisturbed in his own pristine state. Please extend my personal thanks to everyone in the class for the magnificent job they did with our Class Gift."

In spite of **Hal Bemis's** statement back in April that we would have no trouble with him, he is one of the four semi-finalists in the second annual class Golf Tournament. The other three are: **Ham Dow**, **Bob Forster**, and **Bill Barker**. Bill shot a blazing net 68 to beat out **Dick Bailey** by one stroke. In addition to the 16 listed in the July Notes, others who entered and lost out during the summer eliminations included Henry Ogorzaly, Bill Cross, Sam Brown, Kenneth Finlayson, and Gerald Rich. So that the entire class might see what the President's Cup looks like, we asked Hal Bemis, present holder, to have its picture taken for The Review. It is a beautiful antique-silver three-handled mug given by Leo Beckwith to the Golf Tournament winner whose name is inscribed on it. The three-time winner retires the cup permanently.

Here's a letter from **Ham Dow** which just missed the July notes. "With the problems of a new assignment, much traveling, and trying to squeeze what came out of a nine-room house into a six-room apartment, we are after two months just ready for a second breath. . . . In accepting my new assignment, which entails ferreting out the problems

related to our providing the nuclear propulsion plants for a follow ship to the Bainbridge, I did so with reluctance, as we had acquired many friends in the Boston area, and I had looked forward to staying with the Bainbridge until she sailed. However, the new assignment has challenging aspects and a side assignment will take me to every shipyard now in the nuclear propulsion business. One hopeful gain from my return to Schenectady is that I expect to play a bit more golf. I have rejoined the Edison Club and am enclosing my registration card for the Class Tournament. . . . I was saddened to hear the tragic news of **Elmer Szantay** in your June Class News. Edith and I had become well acquainted with him at our 15th Class Reunion. In fact, I had hoped I could somehow join you and him in June on the golf course. Speaking of seeing you, the next time I am in the Boston area, I plan to drop off for your or the Alumni Association's custody, some 20 to 30 extra copies of our 25th Reunion year book. They seemed too valuable for me to discard in our moving. I received no requests for copies last year when we offered them free for the mailing costs.

"I hardly feel that I shall have time to be district secretary of Eastern Upper New York State to which you have so kindly appointed me. However, if you will give me the names of other classmates in this district, I'll try to find you a better one from among them." Ham's new address is 1518 Union Street, Schenectady 9, N.Y.; and if any of you would like a copy of the 25th Reunion Class Book, let me know and I will mail it.

We also received a note from **Walter Stockmayer** advising that they had moved into their new home on April 7 and that there is a magnificent view. Elder son, Ralph, has been accepted at Syracuse and will start there in September. He hopes to row. Stocky didn't report it but news came in that he taught a two-week course in Humble's Science and Engineering program at Baytown, Texas, in July. . . . It isn't often that I receive an address change and a news release (explaining all) in the same mail. But such happened concerning **John P. Bainbridge, Jr.'s** move from Wellesley, Mass., to 2338 Blake Boulevard, S. E., Cedar Rapids, Iowa. Penick and Ford, Ltd., Inc., returned John to Cedar Rapids as industry manager, paper, after serving as New England district sales manager of the company since 1961. John joined Penick and Ford in 1958 after having been associated with Monsanto Chemical Company since graduation. . . . **G. Donald Fenton** has been appointed service manager in the engineering and research department at American Steel and Wire Division of U. S. Steel. Donald and his wife, Mary, reside at 22527 Peachtree Lane, Cleveland and son, James. He first joined U. S. Steel in their Wire Divisions' Cable Works at Worcester, Mass., in 1937. He joined the Cleveland headquarters engineering staff in 1959.

In our July Notes, we noted that **Robert F. Flood** had been appointed executive vice-president of the Linde Com-



A unique golf tournament run by mail was organized by the Class of '35 last year and won by Hal L. Bemis.

pany Division of Union Carbide. On July 27, Bob was appointed president of the Linde Company. Congratulations! Bob. . . . **John S. Cort, Jr.** has been made general manager, Soda Products, Chrome Division, Diamond Alkali Company, with whom he has been associated since 1944. . . . **Elmer J. Roth** has been appointed controller for Stop & Shop, Inc. Elmer lives in Westwood, Mass., with his wife, Juanita, and five children. . . . **Lee A. Reid** has moved to 1270 Loram Road, San Marino, Calif., from Kansas City, Mo. . . . **Carl R. Boytano**, formerly of Morristown, N.J., now resides at 15 Pennymeadow Road, Sudbury, Mass. . . . **William J. Bates** has moved to 909 Old Hickory Road, Pittsburgh 16, Pa. . . . **Wes Loomis** and wife, Polly, left for a European trip July 21 and we would all like to hear the details, Wes. . . . **Jack Orchard** says, "When I told you last fall that you were going to lose one of the news gathering Indians for a few months, it never occurred to me that this interim would be so long, so enervating, so eventful, and so fruitless." We are all waiting for the sequel to this, Jack. . . . **Lester Brooks**, now Dr. Brooks of the Vanderbilt Laboratories, in Norwalk, Conn., wrote a note early in the summer: "The pressure of life here (East Norwalk) is very severe. I have a six-minute walk to work and I'm a 5-iron shot away from my golf club. I commute to the camp I built upstate every Friday night." Les' older daughter enters Purdue this fall.

Unless you want to read nothing but golf in the next notes, I suggest some news from you readers would be most appropriate.—**Allan Q. Mowatt**, Secretary, 11 Castle Road, Lexington 73, Mass.; Regional Secretaries: **Edward C. Edgar**, Kerry Lane, Chappaqua, N.Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Edward J. Collins**, 904 Merchandise Mart, Chicago 54, Ill.; and **Gerald C. Rich**, 105 Pasatiempo Drive, Santa Cruz, Calif.

Alumni Day, June 11, brought at least 12 classmates to the Institute. There may have been others we missed but I per-

sonally can vouch for the John Chappars, Ed and Rose Dashefsky, Vince Estabrook, the Harry Foster Family, Mal Graves, Leo and Fran Kramer, Mr. and Mrs. Dave Mathias, Hal Miller, George and Barbara Parkhurst, Elliott Robinson and his son Clayton, and Ben and Florence Cooperstein. **Ruth Perkins** was also registered but I didn't happen to see her. . . . **Elliott** reported that **Bob Sherman** is living in Warwick, R.I., and has a young son. . . . **Elliott Robinson** and **Vince Estabrook** had shortly before had luncheon in Boston with **Brent Lowe**. . . . **Leo Kramer** has been elected chairman of the Boston Section of the ASME, the largest section in the country. His son, Arnold, has entered M.I.T. as a freshman. . . . **Dave Mathias** is practicing architecture in Montreal and he has two daughters and a son. The older girl graduated from college in June. . . . **Ed Dashevsky** has been elected a vice-president of Raytheon Company. He was formerly general manager of the microwave and power tube division.

The changes of address are many this month: **Ollie Angevine** may be found at Eastern Avenue, R.D. 1, Ballston Lake, N.Y.; **R. Max Brooks** at 4 Miles Road, Austin 3, Texas; Colonel **Gunnard W. Carlson** has moved from Washington to 825 South Washington Street, Hinsdale, Ill.; **Thomas L. Charnley** has moved to 31 Woodland Road, Box 110, Sudbury, Mass.; **Jackson H. Cook** may be found at 416 Main Street, Chatham, Mass.; **Kathleen Shott Cummins** (Mrs. William K.) has a new address at 1304 Christine, Wichita Falls, Texas; **Harry Easton** seems now to be involved with coffee rather than chocolate as his new address is General Foods Corporation, Maxwell House Division, 1125 Hudson Street, Hoboken, N.J. **Lyman Hill** may now be found in Ocean Grove, N.J. (102 Cookman Avenue); **Larry Kanters** is still in Pennsylvania but in Philadelphia instead of Pittsburgh. His new address is 1204 Weymouth Road, Philadelphia 51. **Earle Kinsman's** address is 84 Shore Drive, Laconia, N.H.; **Mark Princi** has moved again, this time a big jump to Milan, Italy, still General Electric Company. The address is Via Bergonne 34; **Henry Runkel** is at 9 Country Club Road, Country Club Estates, Covington, La. That is quite a distance from Seattle, Henry, what gives? Dr. **Harold Smyth** may now be found at Wood Circle, East Brunswick, N.J., and Dr. **Bernard M. Sturgis** at 241 East 24th Street, Tulsa, Okla.; and finally **Paul Whittier** has moved from Winthrop to 61 Old Middlesex Road, Belmont 78, Mass.

On June 14, **Vernon (Ozzie) Osgood** completed 25 years of service with the DuPont Company. He has been at the Sabine River Works, Orange, Texas, since 1947 and for the past five years in the Technical Department with primary responsibility in the nylon intermediates field. . . . **John Ayer** has been named vice-president-operations for the Denver and Rio Grande Western Railroad. He joined the Rio Grande in 1938, having previously been with the Pennsylvania Railroad. Since 1951 he has been chief engineer. . . . The Pitts-

burgh-Des Moines Steel Company has named **James E. O'Neil, Jr.** manager of the new Boston District Office. He has been with PDM since 1948, most recently as sales representative in New York. . . . **Al Klemka** has been elected a vice-president of Morgan Adhesives Company with which he has been associated for the three years since it was founded as a subsidiary of Bemis Brothers Bag Company. . . . **John A. Kleinhans** has been named manager of the chemical division of the General Tire and Rubber Company. He has been with the firm since 1953. . . . **Norm Copeland** has been appointed director of research and development of the DuPont Company's Film Department. The official release states that Dr. Copeland, who received his Ph.D. from the University of Delaware in 1949, joined DuPont in 1937—another quarter century man? . . . **Howard S. Turner**, vice-president for research and development of the Jones and Laughlin Steel Corporation, has been appointed to the Industrial Applications Advisory Committee of the National Aeronautics and Space Administration.—**Alice H. Kimball**, Secretary, 20 Everett Avenue, Winchester, Mass.

'37

Our 25th Reunion is over and the following excerpt from **Bob Rudy's** letter expresses, I believe, the opinion of all who attended: "Joan and I have done nothing but talk about the wonderful time we had and the wonderful people in our class, including, without question, the wives and children. We shall be talking of this reunion for many years to come!" And as **Bob Morton** writes: "I can't put away the Class Book and other mementoes of the 25th Reunion without expressing my great admiration of the job done by the Reunion Committee. Many thanks to all the committee for your many hours of efforts in behalf of the class. You have surely given other classes quite a mark to shoot at." Our 25th Reunion was a success in all respects. We started preliminary registration on Friday, June 8, at Baker House with dinner at the Faculty Club. The weather was sunny and remained that way for our entire reunion. Registration continued Saturday morning with a total of approximately 300, which includes class members and their wives and children. This is the largest number that ever have attended a 25th Reunion. At noon we had a luncheon in Walker Memorial with members of the Faculty as our guests. The guest of honor was Mrs. Karl T. Compton to whom **Phil Peters** presented a copy of our reunion book, which is dedicated to Dr. Karl T. Compton. The children went off on their separate schedule of events and really had a time for themselves. After the luncheon we had our class meeting at which the following class officers were elected: President, **Phil Peters**; Vice-president, **Dick Young**; Treasurer, **Joe Heal**; Secretary, **Bob Thorson**; Assistant Secretaries, **Curt Powell** and **Jerry Salny**; Class Crier, **Ed Hob-**

son; Class Agent, appointed by the President. (**Len Seder** was appointed class agent by President Peters.) President Phil was instructed to make the necessary arrangements to engage the Oyster Harbors Club for our 30th Reunion. A motion was also passed to bill the class for \$10 class dues in 1966.

Saturday evening we had a cocktail party followed by the class banquet. At this occasion our newly elected Class Crier, **Ed Hobson**, presented **Phil Peters** with a framed, engraved scroll of appreciation from the Class of '37 for the enormous amount of time and work that he has given to our class. We are indeed lucky to have Phil at our helm. To **Joe Heal** and **Bob Thorson**, **Ed** presented a hard cover edition of our 25th Reunion class book for the time and effort they put into this official document of our reunion, and to **Rose Thorson**, **Ed** presented a handsome floral piece for her contribution to the success of our class book. All of the committee members were introduced and publicly thanked for their contributions to the success of our 25th Reunion. If ever an event was the result of the efforts of many, many people, it was our 25th Reunion. . . . On Sunday we went by bus to the Essex County Club for swimming, golfing, tennis, bridge, dancing (even the twist) and a wonderful old-fashioned clambake. The weather was wonderful and **Dick Young** is to be complimented on his selection of the location.

On Monday we had a special, guided tour of the Institute, followed by the Alumni Day luncheon. At the luncheon, **Joe Heal** announced our class gift, which was well over \$250,000 and is the largest class gift ever presented by a class at the time of its 25th reunion. We can be justly proud of our class. The reunion ended with the Alumni Day banquet which was a fitting ending for a grand affair. . . . **Fred Lehmann**, '51, Secretary of the Alumni Association, sent the following letter in regard to our reunion class book: "In every way it is a superb production. I hope it will set the example for future years to come." . . . If you would like a copy of our reunion class book, send a check for four dollars, which covers the cost of printing, to your secretary, **Bob Thorson**, 506 Riverside Avenue, Medford, Mass. . . . It is with great regret that I have to report the death of **Elinor Busch**, soon after our reunion. The entire class joins me in sending our deepest sympathy to **Al Busch** and his three girls.—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; Professor **S. Curtis Powell**, Assistant Secretary, Room 5-323, M.I.T., Cambridge, Mass.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N.J.

'38

There is one feature of New England living that your secretary seems to have lost when he moved to Santa Monica: the welcome slowing in pace during the summer months. Here the mad whirl

seems to continue all year long. . . . This month we have news of the deaths of three of our class. **John F. Austin** died January 21, 1960, **Charles F. Gilman**, December 16, 1961, and **William Loveland**, May 1, 1962.

Jack K. Y. Hum has joined the staff of the Chemistry Department of the University of California, Lawrence Radiation Laboratory, Livermore, Calif. . . .

Richard Henderson has been appointed to the post of manager of environmental hygiene services by the Olin Mathieson Chemical Corporation, his assignment is at the Olin Research Center in New Haven, Conn. . . . **Dwight C. Kennard, Jr.**, who has been chief of the Environmental Division in engineering tests at Wright-Patterson AFB, has a new assignment with NASA in Greenbelt, Md., as chief of the Office of Advanced Research and Technology, Test and Evaluation Division. . . . **Lloyd Bergeson** has established his own industrial management and consulting firm. Lloyd was formerly manager of Manufacturing Services at General Dynamics Electric Boat Division in Groton, Conn. In his new capacity he will be retained as a consultant by Electric Boat. . . . **Clifford V. Nelson** has received a lifetime career research grant from the National Institute of Health. Dr. Nelson is a biophysicist at the Maine Medical Center in Portland, Maine. . . . Another award is that of the Gilbreth Medal to **Richard Muther** for outstanding contribution to motion and time study and industrial fatigue. The award was made April 6 in New York City. . . . I am sure you are all aware that our 25th Reunion is scheduled for next June. From time to time you will be hearing more about the reunion from **Al Wilson**, our President, and from these notes.—**David E. Acker**, Secretary, Arthur D. Little, Inc., 1424 Fourth Street, Santa Monica, Calif.

'39

As I was unable to attend Alumni Day in June, **Manning C. Morrill**, X, served as pinch hitter for me, and the following data is from his thoughtful letter: Four '39ers attended the luncheon. **Jack Herlihy**, XV, is the manager of Industrial Services for Inland Steel Company, in East Chicago, Ind. The Herlihy's live in the Beverly Hills Section of Chicago, and have two children, Bill, 12, and Beth, 10. Jack also reported that **John Mohlman**, X, who for some years had been a close neighbor in Chicago, with Standard Oil of Indiana, had recently gone to work for North American Aviation, in California. . . . **George Beesley**, X, is vice-president of Servend, Inc., and continues to live in Lynnfield, Mass., with the three children, Dick, 16, Peter, 14, and Martha, 8. . . . Our prexy **Bill Wingard**, IX-B, was the third of the Alumni Day luncheon guests. Bill is process research manager for United Carr Fastener Corporation. The Wingards live in Newtonville, with their four children Mary Jane, 21, Bill, Jr., 19, Patricia, 17, and Joseph, 5.

As for Manny himself, his news is that the Cryovac Division of W. R. Grace Company was scheduled to move its headquarters and development activities from Cambridge to the Greenville-Spartanburg area of South Carolina, where the largest manufacturing plant of the company is located. Manny, as executive vice-president, made the move also, after reluctantly leaving his favorite New England. The two oldest Morrill daughters, Patricia, 16, and Sally, 14, were scheduled to attend Abbot Academy in Andover, Mass., while Judy, 12, and Rod, 11, were to accompany Manny and Connie to South Carolina. Manny also wrote that he talked by phone with Carl Lenk, X, Burns Magruder, X, Harlow Reed, XIV, Bob Davidson, XV, and Dick Donohoe, II, in the course of the telephone wind-up of the Second Century Fund Solicitation. Manny, as Special Gifts Chairman, was joined in that telephone marathon by Bill Wingard, Bob Casselman, XV, (see a later paragraph for Bob's recent news) and Larry Perkins, XV. . . . Manning concluded his letter: "the announcement at the Alumni Day Luncheon of the Class Gifts from Reunion Classes was impressive and showed that the Class of '39 has a real challenge to equal or exceed what has been done by other classes. We have, of course, received excellent support from many in the class but we need to have more people carrying their share of the load as well as increased contributions from those who can genuinely afford to do so."

Bill Wingard covered the Alumni Day dinner as an acting secretary, and wrote that the other '39ers present were Ernie Kaswell, IX-A, George Beesley, and Seymour Sheinkopf, X-B, with his wife Sylvia. (Promotional note: You'll be hearing from Seymour and me, the co-class agents, during the coming months, so be prepared to respond to our requests for Alumni Fund contributions.) Commenting on George's transition from an adhesive manufacturing company to Servend, Bill wrote that "it was quite a jump from glue to goulash."

Robert Casselman, who joined Polaroid in 1942 and participated in the engineering and development of the Polaroid Land Camera, has steadily moved upwards in the company. He became the first salesman when the camera was marketed in 1949, and has served as vice-president, sales, since 1956. In June, Bob was elected president of the newly formed X-ray division of Polaroid, established to handle the company's activities in the field of instantaneous X-ray photography. One product, for instance, is the Polaroid 3000X radiographic packet which produces positive X-ray prints in just 10 seconds and requires only one-fifth of the usual X-ray exposure, significantly reducing radiation for patient and medical personnel.

A brief and sad note from the M.I.T. Alumni office indicates that Dr. **Harry Wexler**, XVI, passed on, on August 11. Harry, a post-graduate affiliate of our class, had been named in this column several times during the past few years for his contributions in meteorology. His address was 204 South Lee Street, Falls

Church, Va. . . . This next bit of class news comes via my father, O. W. Stewart, '11, who as his class agent attended the Alumni Officers' Conference, September 7 and 8. My having missed that meeting also, Father sent me these news items of three '39ers who recognized the name and made themselves known to him: **Pete Bernays**, V, department head, Chemical Abstracts, Ohio State University; **Myron Cantor**, IX-B, specialist engineer at Republic Aviation, Farmingdale, Long Island, N.Y.; and **Dick Guthrie**, IX-B, engineering manager, Canadian Pratt and Whitney Aircraft Company, Longueuil, P. Q.—**Oswald Stewart**, Secretary, 31 Birch Road, Darien, Conn.

'40

With the return of fall, it is again time for Class News. Your secretary took a trip around the country this past summer visiting all sections except New England. In all, we logged about 7,800 miles. All three boys enjoyed it, the highlights being Yellowstone National Park, the Badlands of South Dakota, the Black Hills, Seattle World's Fair, Disneyland, the Painted Desert and the Petrified Forest. Instead of accumulating things as we went along, one novelty was that room in the trunk increased. Unfortunately, I was not able to see any classmates on this trip, but I did get a chance to speak with **Ray Keyes** when I was in the San Francisco area. Ray indicated that he hoped to be able to attend our 25th Reunion. He gave me notes about the doings of several classmates in the San Francisco area, but unfortunately I lost them some place in our travels. . . . Our Class President, **Frank Penn**, has moved from Maitland, Fla., to 46 Surswyck Road, Darien, Conn.

It is with regret I must report the death of **John H. McGuigan**, who worked for the Bell Telephone Laboratories. John was a member of Course VI-A, and received his bachelor's and master's degrees from Tech. . . . **Herb Hollomon** became assistant secretary of Commerce for Science and Technology on May 14, 1962. He will direct the scientific and technical functions of the Commerce Department. Previously, he was general manager of the General Engineering Laboratory of the General Electric Company. . . . **Tyler Marcy** is now a director of the American Federation of Information Processing Societies (AFIPS). AFIPS co-ordinates the activities of all the U.S. technical societies associated with the computer field. He is also a vice-president on IBM. . . . **Dave Morgenthaler** is in the news as president of Fosco, Inc. which three years ago set up a plant in Cleveland, Ohio. At present, Fosco is one of the fastest growing companies in Northern Ohio and has twice doubled its manufacturing capacity. This year it will again expand by about 50 per cent. . . . **Harold V. Wallace** has been named general manager for eastern operations of Edgerton, Germeshausen and Grier, Inc. Previously, he was manager of tube production and prior to that

was a production supervisor for Sylvania Electric Products, Inc. . . . **Wylie C. Kirkpatrick**, who is a lieutenant colonel in the Army Reserve, recently completed the U.S. Army Reserve Associate Command and General Staff course at the Command and General Staff College, Fort Leavenworth, Kansas. The course is given over a five year period at various Army training centers throughout the nation. Wylie is manager of package engineering for the Ward Baking Company in New York.

Walt Brewer has been elected vice-president of Aerospace Corporation and is in charge of the company's San Bernardino operations in support of the ballistic systems division of the Air Force Systems Command. . . . **Charles T. Goddard** was one of those prominently associated with the research work on Project Telstar. Among his contributions was the development of the ruby maser amplifier used in the ground station receiver at Andover, Maine, and the ferrite limiter used to stabilize signals within the satellite's repeater. At present he is head of the Components and Microwave Solid State Device Department of Bell Telephone Laboratories. . . . By the time this column is read, **Sam Goldblith** will have delivered a paper at the American Chemical Society's meeting held in September at Atlantic City. Sam's topic was "Training Food Scientists for World Needs." . . . Late in the spring, your secretary had occasion to visit with **Arnold** and **Shirley Arch** in Pittsburgh. Arnie kindly showed me around the Mellon Institute, in which are located the offices of the Air Pollution Control Association. Arnie is secretary of the association and editor of its journal.

The following classmates attended Alumni Day on June 11: John L. Danforth, John R. Gray, Richard E. Macphaul, Philip A. Stoddard, M. Arnold Wight, Jr., and John Kapinos. . . . Don't forget to write in order to keep this column in existence.—**Alvin Gutttag**, Secretary, Cushman, Darby & Cushman, American Security Building, Washington 5, D.C.; **Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge 39, Mass.

'41

To bring you up to date on some of the news occurring during the summer months, we find that **Nathaniel M. Sage, Jr.**, Associate Director of the Division of Sponsored Research at M.I.T., spoke at the summer meeting of the M.I.T. Club of New Bedford at the Wamsutta Club. He discussed the extensive building programs at M.I.T. and the work of his department. He noted that the department will soon be doing research under contracts amounting to \$80,000,000. He said that approximately 85 per cent of this research will be underwritten by the federal government. Nate's father was responsible for establishing the Sponsored Research Division at M.I.T., we are told. . . . Much literature has come in concerning the candidacy of our **Howard**

J. Samuels for the Democratic nomination for Governor in New York. He did not win the nomination, but should be commended for his game fight, fine spirit and deep sense of individual responsibility in civic affairs as evidenced in the news reports. . . . **Martin L. Ernst**, a former associate director of the Operations Evaluation Group of the Division of Sponsored Research at M.I.T. and now with the Arthur D. Little Co., is reported to have participated in a recent 20th Anniversary Conference of the Operations Evaluation Group in the Office of the Chief of Naval Operations, Navy Department, Washington, D. C.

Les Corsa and family are now living in Karachi, Pakistan (P.O. Box 7282) where he is family planning consultant to the government, assisting in the development of its new nationwide program to lower the high rate of population growth. The Population Council and the Ford Foundation are providing technical and financial aid. Les plans to return to the California State Department of Public Health in September, 1963.

. . . **Frederic W. Watriss**, Assistant Treasurer of M.I.T., has been named a director of the Great Eastern Life Insurance Company. He is a resident of Concord, Mass. . . . Among those attending the Alumni Day ceremonies on June 11 at M.I.T. were **Everett R. Ackerson**, **Henry** and **Mrs. Avery**, **Edward A. Beaupre**, **Michael Driscoll**, **Walt Kreske**, **Edward R.** and **Mrs. Marden**, **D. Reid, Jr.** and **Mrs. Weedon**. **Ed Marden** was chairman of the Banquet and Entertainment Program highlighting Alumni Day festivities.

. . . **Dr. Harry H. Wasserman**, a specialist in the development of new synthetic methods, has been appointed chairman of the Department of Chemistry at Yale University. The appointment was effective July 1 and coincides with Wasserman's promotion to full professor as of that date. He has been a member of the Yale chemistry faculty since 1948. He has since 1961 served as honorary American editor of *Tetrahedron*, an international journal of organic chemistry. He is also director of graduate studies in chemistry at Yale. Harry was born December 1, 1920, in Boston. After receiving his B.S. from M.I.T. in 1941, he obtained his master of arts degree in 1942 and Ph.D. in 1948, both of the latter from Harvard. He was appointed as an instructor at Yale in 1948 and promoted to assistant professor in 1951, associate professor in 1957, and full professor this year. In 1959-60 he received a Guggenheim Fellowship and spent the year at the University of California. This spring he received a special grant from the U.S. Department of Health, Education and Welfare for his research on "activation of phosphates for nucleotide synthesis." During World War II he was a chemical officer in the Air Force and served in the African theater. In 1945 he worked in the Office of Scientific Research and Development on the structure and synthesis of penicillin. He is married to the former **Elga R. Steinberg** of Great Neck, N.Y., and the couple have two children.

Franklyn W. Phillips, veteran of more

than 21 years' service in the National Aeronautics and Space Administration and its predecessor agency, will establish and direct NASA's New England Operations Office. He is now undertaking the task of organizing the new Boston office. Principal function of this newest field unit of the agency will be to provide more effective management of NASA's grants and contracts in the New England area and to conduct technical and administrative liaison with contractors, research institutions, industries, and other government agencies. Franklyn has been one of the assistants to the administrator since the establishment of NASA in 1958. Before that he worked for 13 years on the headquarters staff of the director of the National Advisory Committee for Aeronautics. He was born in Cleveland, Ohio, attended public schools there and in Birmingham, Mich. He studied at General Motors Institute while working for Chevrolet Motor Division of GM. After graduating from M.I.T., he did graduate work in the University of Maryland. He began his government career in 1941 as a junior engineer at NACA's Langley Aeronautical Laboratory at Langley Field, Va., then transferred to the NACA Lewis Flight Propulsion Laboratory in Cleveland, 1942. Most of his work there was concerned with aircraft engine materials and stresses. Transferring to NACA headquarters in 1945, he directed a number of research programs connected with engines, aircraft and missile structures and loads. He became chief of Aircraft Structures and Loads Division. In October, 1958, he was appointed special assistant to the NASA administrator. He was then named acting secretary of the National Aeronautics and Space Council for a year up to February, 1960, when he returned to his former duties. When James Webb was appointed administrator in February, 1961, Phillips continued to serve as his assistant on the most important policy and management problems. He is a member of the Institute of the Aerospace Sciences, a lay reader in the Episcopal Church and is active in the Boy Scouts of America. He lives with his wife, Patricia, and two children, Marianne, 15, and son Andy, 14.

Leo Alpert presented a paper on "Atmospheric Design Criteria for Army Materiel" at the September meeting of the American Meteorological Society. . . . Let's make this our most interesting and active year by continuing to send in news items for publication in this column by mailing to any one of the following secretaries.—**Walter J. Kreske**, Secretary, 53 State Street, Boston 9, Mass.; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh 28, Pa.; **Everett R. Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree 85, Mass.

'42

Our 20th Reunion was a great success, and I think a fine time was had by all. The weather was perfect, and the enjoyability of the two days attested to the

excellent job done by the Reunion Committee. **Al Goldis**, who was Chairman of the Committee, received the thanks of all of us who attended for the fine job he did in pulling together the many threads of such an operation and weaving them into a first rate affair. Total attendance was 135 and several awards were made. One went to **Jack Williams** for coming the longest distance. He indeed deserved it having flown directly from Paris to the reunion. **Charlie Ruckstuhl** was given an award for being the first grandparent in the class, at least as far as the committee was able to determine. At the banquet there was a short business meeting during which officers for the ensuing five years were elected. **Jerry Coe** was re-elected as President; **Al Goldis**, **George Schwartz** and **Charlie Speas** were elected Vice-Presidents; **Marty Levene** was re-elected as Treasurer, and I was elected Secretary, replacing **Lou Rosenblum** in a job which he has done faithfully and with great distinction over the past years. All of us who have read the Class News month after month for the last 10 years know just how much we owe to Lou for the splendid job he has done.

As I resume writing the notes after an absence of many years, I must immediately make the usual request for news notes. I recognize that it is always a real chore to write a letter, but I am dependent upon you for news of the Class of '42. So please write to me here at M.I.T. with any information you might have regarding our classmates and your own activities.

The Fourth Annual Alumni Officers' Conference was chaired by **Ed Vetter** who has just moved back to Dallas where he now heads T. I.'s new Materials and Controls Division. (Metals and Controls is part of this division.) There were a number of our classmates at the Conference: **Lou Rosenblum**, **Bob Fay**, **George Schwartz**, **Paul Hotte**, **Monroe Brown**, **Bill Devine**, **Ed Telling**, and **Marsh McGuire**.

Our clipping service has given me a number of clippings relating to an interview with **Bill Graham** recently. He is head of the electronics department of the Rand Corporation, according to the paper. Bill apparently made the point that military research and development proposals have to be analyzed carefully lest work is started on devices that are not really needed but whose main merit lies in enthusiastic proponents. . . . **Fred Gander** has been made director of Pioneering Research and Development in DuPont's Film Department. I believe he was formerly director of the Yerkes Research Laboratory in Buffalo. . . . **Bob Fay**, as most of us know, is a patent attorney in Cleveland and is most active in M.I.T. affairs. He reports that **Charles H. Smith, Jr.**, who was area chairman for Cleveland in our Second Century Fund campaign, represented management at the International Labor Organization in Geneva. This prevented his attending the reunion.

One classmate in whom we can take great pride is **Bob Shaw**, who is a leading heart surgeon. The considerable ex-

perimental work he has done with blood vessels and arteries was put to good use when, as a member of a team from the Massachusetts General Hospital, he recently made medical history. You may have read in the papers or national magazines how a young boy had his arm sewn back in place after it had unfortunately been severed in an accident. Perhaps not many of you are aware that the former editor of "VooDoo" played a prominent part in this story. . . . I have word that **Bill Chepulis**, who formerly was with Bell Telephone Laboratories, Western Electric, and Hermes Electronics Company, is now a member of the technical staff of Damon Engineering Inc., of Needham Heights. . . . I am saddened to report the death of **Robert T. Gage**, who passed away last May. Unfortunately, I have no details. . . . **Dean Lewis** this summer won just about every award available to Raven Class skippers, including the Hartnet Trophy given at Marblehead's Race Week. His supply of silver cups at the moment is quite extensive. . . . Our final item concerns **Bob Rines**, who is going to give a course on Patent Law at the Institute this fall. Maybe some of you would like to enroll!—**Jack Sheetz**, Secretary; Room 3-342; M.I.T.; Cambridge 39, Mass.

'43

News accumulates during the summer months, when your secretary and The Review are on vacation. Going back to some June items, **Richard S. Fallows** was named head of the MITRE Corporation's Digital Systems Engineering Department. In his new post, Dick is primarily responsible for the engineering, operation and maintenance of the electronics system test facilities used by MITRE for air defense and air traffic control system design experimentation. Dick was at the radiation lab at Tech from 1943 to 1946, received his master's degree in physics from the University of Michigan in 1947, then joined Sylvania. In 1953 he joined M.I.T.'s Lincoln Laboratory and went to MITRE in 1958. He subsequently was named associate head of the SAGE Equipment and Test Facility Department. He lives at 5 Bellingham Street, Newton Highlands, with his wife **Muriel** and their four daughters. . . . **Dr. Richard B. Morrison** was named director of Launch Vehicle and Propulsion Programs in the Office of Space Sciences of NASA in June. He joined NASA from the University of Michigan where he had been professor of aeronautical engineering and supervisor of the university's Aircraft Propulsion Laboratory since 1958. He was associated with Michigan's Department of Aeronautic Engineering since 1946, and received his Ph.D. there in 1952.

William J. Vallette was appointed director of industrial engineers at Transition Electronic Corporation in Wakefield, Mass., in June. He has the responsibility for administration and direction of industrial engineering in all three of their

plants. He is national executive vice-president of the American Institute of Industrial Engineers, director of the Boston chapter of the Society for the Advancement of Management and past chairman of the New England Industrial Engineering Council. . . . **Dexter K. Bowers** was appointed vice-president of Schellens-True Corporation in Westbrook, Conn. He has been chief production engineer there since 1948. This firm is a wholly owned subsidiary of the Perfect Circle Corporation, manufacturer of piston rings and other automotive and industrial engine products. The Westbrook plant makes turbine blades, turbine buckets and wheels for steam and gas turbines. . . . In the spring of this year, **Victor C. Darnell** of Kensington, Conn., was named chief engineer of the Berlin Construction Company of Berlin, Conn. Vic has been with Berlin Construction since 1946, where he is secretary and a member of the board of directors. He is quite active in community affairs, being a member of the board of the New Britain, and the Shuttle Meadow Club. Vic and Jane have two children.

A picture in the Lexington, Mass., Minute-Man in May shows **Robert E. Hewes**, who is the registrar at M.I.T., climbing aboard a jet trainer while visiting Air Force ROTC headquarters at Maxwell Air Force Base, in Alabama. He has always extended a hearty welcome to Alumni visiting M.I.T. to stop in at his office. . . . **Bailey H. Nieder** moved to Toronto, Ontario, last spring from Tacoma, Wash., to join the Central Staff of Canadian Breweries, Ltd. He formerly was assistant plant manager of Carling Brewing Company. . . . **Robert W. Beatty**, who received his master's in electrical communications with our class, was named consultant for microwave standards in the Circuit Standards Division at the Boulder Laboratories of the National Bureau of Standards, U.S. Department of Commerce. He worked with the Naval Research Laboratory and was a staff aid at the M.I.T. Radar School during the war. In his work with the Bureau of Standards, he has been responsible for standards and measurements of impedance, attenuation, and power at UHF and microwave frequencies, and has been associated with the design of a number of precision attenuators.

Kenneth R. Gifford, owner of Wadleigh's, Inc., of Hallowell, Maine, and a member of the executive committee and board of directors of NEFI, announced his candidacy in the June primaries for nomination to the Maine House of Representatives on the Republican ticket from the towns of Hallowell, Manchester, Litchfield and West Gardiner. A past president of the Tri-City Fuel Dealers Association and the Maine Oil and Heating Equipment Dealers Association, he was on the Board of Selectmen in Wilton for two years and is at present on the School Committee in Manchester, Maine. We don't know the results of the primaries as of this writing, but we certainly wish him good luck. . . . Most of you have heard about it, but I want to mention that in the spring **Bob Meissner**, President of Meissner Engineers of

Chicago, unveiled the MEISENG, a computer system capable of automatically designing engineering and architectural projects. By furnishing a complete mathematical description of a project, this computer relieves engineers of hours of tedious routine calculation. Assistant Secretary **John W. McDonough, Jr.**, is with this firm, as many of you know.

At Alumni Day in June, it appears that everyone attended but your class secretary. I was reminded of this fact when I received a note from **Ira Cruckshank** and **Ken Warden**, with a big question-mark on my attendance. In all, besides the above, the following attended: Leo Fitzpatrick, Sid Hall, Ray Richards, Dean Ken Wadleigh, and John Ward. We had a very good attendance from our class at the Fourth Alumni Officers' Conference in September at M.I.T. This gave your secretary a good chance to catch up on some news of classmates who have overlooked writing to me. **Bernie Liss** was there, representing the Educational Council in northern New Jersey. He lives in Glen Rock, N. J., is married and has two daughters, and is employed by Eclipse-Pioneer Division of Bendix as a mechanical design engineer. Other Educational Council Representatives included **Jim Shyne**, of Caldwell, N. J., who is with Reaction Motors Division of Thiokol Chemical Corporation. Jim and his wife have seven children. It was also a pleasure to see **John Lipford** again; he lives in North Carolina and is in the metal fabricating business, mainly supplying display boards and racks.

I had a nice chat also with **Andrew Plonsky**, who teaches engineering and mathematics at the University of Scranton where he has been for the last 15 years. He is married and has three children. **Michael Witunski**, was present, representing both the Educational Council and the M.I.T. Club of St. Louis, Mo. In the confusion I was unable to chat with him, but I am sure we will be hearing from him shortly. Dean of Student Affairs **Kenneth R. Wadleigh** was one of the speakers, and his comments on the students of today were witty and illuminating. Class President **Jim Hoey**, who is also our representative on the Alumni Council, informed us that things are jelling with regard to plans for our 20th Reunion at the Mayflower Hotel in Plymouth next June. Jim was elected Commander of the Boston Power Squadron last spring, and has been teaching navigation for quite a few years in that organization. I look forward to receiving news from all of you (and/or your wives) in preparation for the coming reunion.—**Richard M. Feingold**, Secretary, 10 North Main Street, West Hartford 7, Conn.

2-'44

Well here we are at the beginning of another volume of The Review. It has been a most pleasant summer, and I hope that other fellows in the class have had just as pleasant a summer as the ones I heard from while in New York a

couple of times recently. First on the list was **Al Corona, IX**, who is a design engineer on pressure vessels with Socony Mobil. He has not been on any long trips since the one reported some months ago to Turkey. . . . **Bob Cooper-Smith, XV**, is a division manager with Olin Mathieson. He had been working in their New Haven plant before transferring to New York, so he commutes from Orange, Conn., where Marilyn and the four children await Bob's return to head for the family boat. The family spent the summer vacation cruising along the coast. . . . A call to **Carroll Boyce, XV**, editor of Fleetowners Magazine, found him in the middle of planning a conference in Chicago known as the National Fleet-owners Conference. It was to be a four-day affair in October, and from all indications it is going to keep Carroll quite busy until that time. He advises that he has finished the addition to the house which he built over the last year. A note received from the Institute indicates that **Sanborn Brown, VIII**, Professor of Physics at the Institute, has published an article suggesting there may be some correlation between masers and celestial sources of radiation amplification.

I received a note from **Bob Peck, XV**, in which he said he had been trying to locate **Pete Matthews, XV**, who is with the Department of Sponsored Research at the Institute. Bob enclosed a reprint of an article that appeared in the Boston Herald on the activities of Controlled Environment, the company that Bob founded about three years ago in Needham, Mass. For those who missed the commercial when it appeared last year, Controlled Environment sells clean rooms. . . . A release by the Army Information Service brings the news that **Gordon Shingleton, XV**, stationed in Okinawa, was honored by the village of Kawa-son for his part in bringing water to the drought-stricken village last fall. Working on his own time with a crew of men, they hauled over 150,000 gallons of water to the village and the local school. . . . I was at Alumni Day at the Institute and had a chance to see just about all of the fellows who were there. From the reservation list, the following were there: Brent R. Anderson, II; Les Brindis, XV; John Gardner, VI; Frank Laurenzano, II; Jay Martin, II; Pete Matthews, XV; Pete Rinaldo, X; Joseph Snyder, X; Bill Spear, II; Fred Stearns, XV; Newt Teixeira, VI; Ted Nathanson, XVI; Al Reppucci, I; Peter Elias, XV; and Pete Quattrochi, XV. My notes at this point show that **Pete Quattrochi**, who has been in sales and living in Warwick, R.I., had just taken a new position with Fasco Industries in Rochester, N.Y. At the time I saw him last June, he was commuting between the two cities, with a house for sale in Warwick. . . . **Fred Stearns** was in charge of one of the symposia, and I was only able to see him briefly. . . . Through a friend in one of the other classes, I was advised that **Gonzalo Docal, X**, is plant manager of a U. S. Rubber plant in Bogota Colombia. . . . **Andres Freitas, XV**, has been appointed

Ambassador of the Dominican Republic to Washington, D. C. . . . Also, **Marshall Ross, X**, is now located in Panama City, Panama, manufacturing aluminum window screens. Business is quite good in Panama. . . . One last item, I ran into **Bob Benedict, XIII**, and he had just finished his vacation. He had spent it in and around Greenwich, Conn., since just prior to vacation he had taken a whirlwind trip down to Mexico City, and a number of the Central American republics. Bob reports that the landscaping is doing well, and that given enough rain and sun, the garden will be in perfect shape soon.—**P. M. Heilman**, Secretary, 30 Ellery Lane, Westport, Conn.

'45

During the Fourth Alumni Officers Conference in early September, several of us discussed the possibility of a multi-class V-12 reunion. Although the bulk of the discussion occurred in the evening **Dave Trageser, Dave Flood, Scottie Carpenter, '44**, and myself considered it still a good idea Saturday morning. You all recognize that a successful reunion requires work, interest, and, most importantly, attendees. This query about interest is directed towards all former V-12ers in the classes of 2-'44, 10-'44, '45 and '46. Should any of you have any interest in this pipe dream drop me a card or note. The reunion would not be tomorrow since it would require a great deal of co-ordination between classes, the Institute, etc. It is only an idea at the moment, but your interest could turn it into reality. Never before, and let's hope never again, has such a motley crew been assembled under such trying conditions as existed at the Grad House from '43 to '46.

Dave Flood spent several interesting and exciting days on the nuclear carrier U.S.S. Enterprise during her builder's trials last fall down in the Roads. Dave was aboard to observe and test some antenna equipment he designed. . . . Our spies report that **Tom** and **Jimmie Stephenson** are back in Pittsburgh with Tom stationed at Alcoa headquarters. Is that correct, Tom? . . . You will recall that we had **Al Oxenham** living in Newark; he is working for Scientific Design in Manhattan, I believe. . . . In mid-June, **Dave Clare** of Johnson & Johnson was appointed local chairman of the Major Firms Division of the 1963 United Fund. Happy Solicitation, Dave! . . . Dr. **Harvey Brooks**, Dean of Engineering and Applied Physics at Harvard, replaced Dr. Julius A. Stratton as a member of the President's Science Advisory Committee during the summer.

The Secretary of Commerce presented the President's "E" Flag to Lemco International, Inc., on July 31. The presentation was accepted by **James J. Strnad**, President of Lemco Products, Inc., the parent company. J. J.'s party included Edna, son James F. as well as Senator Stephen M. Young of Ohio. You will recall that Lemco manufactures automotive engine rebuilding equipment as well

as replacement parts for autos, trucks and crawler trailers. The award was the first "E-for-Export" given to an Ohio manufacturer. Congratulations J.J. . . . In mid-July, Sales Promotion Services of Hartford, Conn., announced the appointment of **Richard N. Jorgenson** as president. Dick joined SPS in early 1961 as a vice-president, to serve as an industrial products account executive. You will recall that Dick has specialized in industrial product marketing, publishing and sales management. While in Hartford, we should mention that **William G. Martin** was one of four parishioners to preach in August at the United Church of Christ in West Hartford. Bill is manager of Johnson Service Company. . . . **Miles Libbey**, an XIII-A graduate, joined MITRE's Intelligence Systems Department in late May. Miles had previously served on the research staff of Lockheed Electronics Research Center in Bedminster, N.J. . . . Not too many '45ers attended Alumni Day last June, only Dave Flood, Jay Forrester, Bob Maglathlin and Warren Miller. Where were the rest of you? Dave Trageser was hosting a panel discussion on the utilization of radiation in industry at a technical seminar at High Voltage Engineering. At about the same time, possibly a couple of weeks later, Fran and I received a collect midnight phone call from **Julian Busby**! It seems that Buzz and **George 'Bud' Hetrick** were reminiscing over after dinner coffee at the Hetrick's in St. Louis. Oh, yes, we were in the midst of finishing touches as we prepared to move to our new, but old, home here at 33 Barncroft Road, Stamford, Conn.

The wealth or affluence of your class treasury went to your president's head. You gave us the power and we acted! On July 11 Dave Trageser forwarded \$500—we have little or nothing left—to the Second Century Fund. All of your officers, especially Class Agents **Bill McKay** and Dave Flood, trust that you as individuals contributed as well.

Before closing with the usual plea for news, let me quote in part the single response our last appeal brought from **Nick Mumford** of Chance Vought in Dallas: "Much work with our new contracts which continues to keep me on the move about twice a month. **Dick Luce** was in the plant recently trying to sell us heat exchangers for our new Assault transport. I saw him briefly but do not remember the name of his company nor if we bought any of his equipment! . . . We have had the annual July 4 picnic with the **Freiberger**s. We had hoped to get out some new faces this year including **George** and **Barbara Upton**. Both **Jake** and **Kate Freiberger** are fine, she having finally recovered from a bout with a leg broken while skiing in Colorado. The others there included Max Daggett, '46, Otto Wetzell, '48, and Les Ackerman '48. The Mumfords are enjoying the usual Texas summer, looking forward to vacation in North Carolina in August." I can report that the vacation was enjoyed by all. Nick called from Idlewild yesterday as he was about to fly off to San Francisco after two days at Reaction Motors in Sparta, N.J., the

home of **Hart** and **Blanche Kircher**. . . . Don't you agree letters are more alive than newspaper clippings or your secretary's editorial comment?—**C. H. Springer**, Secretary, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y.

'46

We received a nice letter from **Don Burke** this summer, and following are some excerpts: "For a year now, I've been with Goodbody and Company, (St. Petersburg, Fla.), specializing in its fiscal agency and underwriting work. I now know that a Course XV man can be of some use to you real engineers, especially if your company needs money to get a project under way. I suffer when I see the many well-engineered and badly needed projects that never develop, solely for lack of funds. I'm very happy to say that Goodbody tries to find ways to finance various undertakings, and is often successful. Pat and I and our four children try to keep cool during the summer at the beach, or on occasional trips to the mountains of Florida (at least 100 feet above sea level). We highly recommend visits to Florida's many natural springs. Beautiful, clear, cool water. Some gush forth enough new water daily to supply the entire needs of New York City. These statistics, and those of some of the mermaids inhabiting these springs, should make your visit well worthwhile. Little League baseball, and various civic and neighborhood activities keep me away from the golf course more than I'd like, but I still shoot in the low 80's. If it's any hotter than that, I don't play. (That's a Florida joke.) Come and see us if you get this way."

Rick Adler also has written with news of his new position. Rick's home is at 1109 State Street, New Orleans 18, La. "In April, 1962, I was promoted to the position of chief engineer of Equitable Equipment Company, Inc., which concern I've been with for the past 11 years. In this capacity I am in charge of all design and estimating work in connection with our Shipbuilding and Steel Fabricating Divisions. (Other divisions of the company have to do with sales of various lines of industrial machinery.) Our biggest and most interesting project at the moment is the building of a ship for drilling oil wells from a floating position in practically unlimited depths of water. To the uninitiated, until quite recently all underwater oil well drilling has been done from rigs either resting on or fixed to the ocean floor. This present project is the second of two vessels for us, named Cuss II and Cuss III, both patterned after Cuss I, about which you may have read as having been used in the preliminary work for the Mohole Project. In a letter I received from **Clarence S. Lyon** he asked for suggestions for a location for our 20th Reunion, which is only four years away. Sue and I wish to cast our votes for a return to Snow Inn, which is a delightful spot and has just the right kind of facilities for a reunion. I must

say, however, that our class can have a good reunion just about anywhere. Glad to report that Sue, our two girls, and I are fine."

We also received a letter from **John Norton** this past summer. He reports that after receiving his B.S. in aeronautical Engineering in '46 he received his M.S. in mechanical engineering from M.I.T. in '47. John is with General Electric Company, Missile and Space Vehicle Department, and is manager of their Atlantic Flight Test engineering operations at Cape Canaveral. He has been in Florida a year now, after two and one-half years in Philadelphia and three years in Schenectady. His job involves checking out G. E. re-entry vehicles and helping count down Air Force Atlas and Titan missile shots from the Cape. Jack lives in Cocoa Beach with a boat tied to the back door. Fishing is good, and liar that he is, Jack claims that he has had one nice Mullet jump into the boat all by itself. John and Priscilla have two children, Linda, 13 and John Jr., 11. John reports that **Al Little** is a project manager at GE-MSVD in Philadelphia. . . . As predicted here last spring when we reported his new overseas position, the **Seward J. Kennedys** have a new address, 37/43 Sackville Street, London, W.1, England. . . . That is the news received from the '46 troops in response to my impassioned pleas of last spring. Thanks very much to Don, Rick and John for their newsy letters.—**John A. Maynard**, Secretary, 25 Pheasant Lane, North Oaks, St. Paul 10, Minn.

'47

Our 15th Reunion at the Griswold Hotel in Groton, Conn., was a wonderful weekend enjoyed by all. One of the highlights of the reunion was the Saturday afternoon softball game where special rules were generated as the game progressed to help the wives score more runs. At the banquet Saturday evening the following class officers were unanimously elected: **Claude W. Brenner**, President; **Parker Symmes**, Treasurer; and **Martin M. Phillips**, Secretary. The following Alumni attended the reunion: Robert A. Aquadro, Mr. and Mrs. Jordan Baruch, Paul Block, Claude W. Brenner, Mr. and Mrs. Cyril H. Brown, Israel Cramer, Mr. and Mrs. Sidney Grob, Mr. and Mrs. Robert L. Horowitz, Philip D. Jones, Mr. and Mrs. David C. Knodel, Mr. and Mrs. Walter A. Lack, William McCurdy, L. P. Michel, Mr. and Mrs. E. Paul Moschella, Mr. and Mrs. Alexis Pastuhov, Mr. and Mrs. Martin M. Phillips, Mr. and Mrs. James L. Phillips, A. S. Richardson, Joseph J. Riley, Mr. and Mrs. Edwin A. Rosenberg, Mr. and Mrs. Irving L. Schwarz, Mr. and Mrs. Lawrence Shutzer, Mr. and Mrs. Parker Symmes, Mr. and Mrs. Arnold M. Varner. . . . The class still has some very eligible bachelors including our popular president.

Thomas C. Warner, Jr., of West Haven, Conn., has been appointed chairman of the Mathematics Department at

New Haven College. . . . **Paul Bousquet** has been appointed port manager of Quebec Harbor. . . . **Laurence M. Ford** of Redding, Conn., has been appointed State Civil Defense Fire Co-ordinator. . . . **Dr. George A. Russell, Jr.** has been appointed associate professor of physics at the University of Illinois. . . . We received a letter from **Skip Cavanaugh** in London, England; her husband, **Ed**, is managing director of Cannon Electric. They someday hope to get to a class reunion. **Ed** met with **Chris Kielland** in Oslo, Norway on a recent business trip. . . . **Walter J. Weeks** has been named manager of Sales Research for Remington Arms Company, Inc. . . . **Dudley F. Church** has been named supervisor of systems engineering at the Crown Zellerbach Central Research Division in Camas, Wash. . . . **Vance G. Raynsford** has been appointed controller for the newly created Vitro Services at the Eglin operation in Florida. . . . A former co-ed, **Mrs. Philip F. Wagley** of Baltimore, has been elected to the board of trustees at Goucher College. . . . **Leslie R. Martin, Jr.** has been promoted to associate actuary of the Aetna Life Insurance Company. . . . I would like to receive personal letters from class members who would like to communicate with others through the class notes. —**Martin M. Phillips**, Secretary, c/o Tyco, Inc., Hickory Drive, Waltham 54, Mass.

'48

It appears from the many notices received that congratulations and best wishes are in order for a great many of our classmates for honors, promotions and new assignments in their respective fields. Alphabetically they include **Colonel Nils M. Bengtson**, who has been named Deputy Commanding Officer of the U.S. Army Research Office in Durham, N.C. . . . And **Lynwood O. Eikrem**, who is the new manager of product development for the David W. Mann Company, a division of the Geophysics Corporation of America. . . . **Dr. Armand V. Feigenbaum** was re-elected president of the American Society for Quality Control, a 15,000-member organization, at its annual convention in Cincinnati. . . . **Robert E. Fuerst** won honorable mention in the 1962 Graduate Rehabilitation Literary Awards Competition. . . . **Richard H. Harris** was named a trustee at the Worcester Junior College. . . . **Lloyd W. Hartman, Jr.** became president of the Lake Central Airlines at a meeting of the Board of Directors. . . . Professor **W. David Kingery**, Assistant Professor of Ceramics at M.I.T., was one of four who received national recognition when they were named Fellows of the American Ceramic Society. This honor is awarded in recognition of conspicuous achievement in the ceramic industrial fields. Professor Kingery also spoke at the symposium at the Pennsylvania State University sponsored by the Office of Naval Research. His subject was "Effects of Microstruc-

ture on the Properties of Ceramics." . . . **Dr. John R. Lamarsh's** appointment as associate professor of Nuclear Engineering effective September 1, was announced by the dean of Cornell University. . . . **Robert M. Langer** has been appointed to the Badger Company, Inc. Sales Engineering Staff. He joined the company in 1955 as a process engineer.

James B. Leahy became assistant chief engineer of the Webster Manufacturing Company. . . . **William B. S. Leong** was appointed Lowell City Planner—a post he took over on July 1, 1962. . . . Captain **Bruce E. Morrell** received the U.S. Air Force Commendation medal. This medal was in recognition of his meritorious achievement while assigned to the office of Technical Development, Ballistic Systems Division. . . . **Richard E. Mould**, President and Director of the American Glass Research, Inc.; was also named one of the Fellows of the American Ceramic Society. . . . **Edwin S. Rich** has been named to head The MITRE Corporation's newly organized System Integration Office. This new office will be responsible for MITRE's work in providing studies, analyses, and specifications necessary for integration of major Air Force electronic systems. . . . **Dr. George S. Shields**, Assistant Professor of Medicine at the University of Cincinnati, is advocating the addition of copper to the diet to stay healthy. He finds lack of the mineral a clue to the rupture of heart vessels. . . . **John H. Wright** is now the publications supervisor for Government Programs for the Beckman Instruments, Inc., Systems Division in Fullerton, Calif. He was formerly Government Programs field service supervisor. . . . **Robert H. Bliss** is soliciting help from any and all members of the Class of '48 for the 15th Reunion and the Class Book. Volunteer, please!

The following attended Alumni Day on June 11: **R. Ellsworth Annis, Jr.**; **Mr. and Mrs. Richard C. B. Berry**; **S. Martin Billett**; **Mr. and Mrs. Robert H. Bliss**; **Thomas F. Buck**; **Gertrude S. Burbank**; **Frank E. Gupitill, Jr.**; **Edwin W. Hiam**; **Mr. and Mrs. David A. Hoadley**; **Daniel I. Levin**; **Mr. and Mrs. William B. Maley**; **Mr. and Mrs. James J. Pastoriza**; **Frederick A. Radville**; **Norman L. Seltzer**; **Mr. and Mrs. John M. D. Walch**; **Mr. and Mrs. Robert A. Wofsey**; and **Mr. and Mrs. Haig S. Yardumian**. I hope you all enjoyed the summer and that you will continue to send in news items appropriate for future issues of The Review.—**Richard H. Harris**, Secretary, 26 South Street, Grafton, Mass.; **Harry G. Jones**, Assistant Secretary, 94 Oregon Avenue, Bronxville 8, N.Y.; **Herbert Kindler**, Assistant Secretary, 128 Elatan Drive, Pittsburgh, Pa.; **Robert R. Mott**, Assistant Secretary, Box 113, Hebron, Maine.

'49

When you read these words, it will be November, and we should be enjoying the New England fall. At the moment, it is mid-September, the hay fever season

is in full swing, and I am suffering. The date lines on our class notes span the time period from mid-May to late August. It is obvious that we do not possess the timeliness of a newspaper column. However, our class is now 13 years from graduation, and each year passes faster than the one before. From this point of view, the spread in news dates is about two and one half per cent of the relevant time span, only a minor statistical fluctuation in degree of currency. In any event, a new publishing year is underway, and I welcome you to another volume of class notes. . . . **Dr. John Thacher Clarke, V. (Ph.D.)**, has received an appointment at Harvard University as research associate in biological chemistry. He is associated with Children's Hospital Medical Center. . . . **Robert A. Hawkins, XIII-A**, has been appointed as manager of the Lowell plant of Avco Corporation's Research and Advanced Development Division. Mr. Hawkins holds degrees from the U.S. Naval Academy and M.I.T. Before joining Avco in 1955, he was a Naval officer and took part in the development of power plants for the first atomic submarines.

The May, 1962, M.I.T. Reports on Research tells about a very simple and effective barium getter vacuum pump which **Sanborn F. Philp, VIII** and **VI**, helped develop. . . . **Harold A. B. McInnes, II**, former works manager for the Reed Rolled Thread Company in Holden, Mass., has been named vice-president and director of operations for SIE Division, Dresser Electronics, according to the Houston, Texas, Chronicle. . . . **Norman M. Klein, A.I.A., IV-A**, has become an associate partner in Whittlesey and Conklin (architecture and city planning) and Whittlesey Conklin and Echeverria (consultation on foreign projects). . . . **Leonard Bezark, Jr., XV**, is now manufacturing manager for LaPine Scientific Company in Chicago. Before joining LaPine, he spent 10 years with Profexray in Maywood, Ill., as production manager and sales engineer. . . . **Robert A. Arrison, Jr., VI-A**, is now director of engineering for Vacuum-Electronics Corporation, Plainview, N.Y. He was formerly vice-president of engineering at the Keleket X-Ray Division of Laboratory for Electronics in Waltham, Mass.

Dr. Charles E. Carver, I. (M.S., Ph.D.) has been promoted to full professor at the University of Massachusetts. . . . From Baltimore, Md., we learn that **Howard A. Reuter, VI**, has been named supervisory engineer for the radar design group at Martin in connection with the company's portion of the Gemini program, the project to place two men in orbit. . . . **Charles M. Jordan, II**, has been appointed executive in charge of automotive design for the General Motors' styling staff. He had been chief designer at Cadillac since 1957. . . . **John and Geri Kunstader** have regretfully returned from a two-year stay in London, and may now be found at 1236 Asbury Avenue, Winnetka, Ill.

Your secretary was in London during the week of Alumni Day, June 11, but a letter from **Russ Cox**, Class President,

describes the goings-on: "I am enclosing a list of the classmates who joined us at our Alumni Day festivities, particularly the cocktail party in the afternoon which was a great success. It was interesting to note that the June 9 issue of Business Week quoted Nick DeWolf, '48, President of Teradyne, in the article on Boston. **Alex D'Arbeloff**, of our class, is a partner of Nick's in this venture. . . . **Bill Jones** has also started his own small company during the last year. . . . **Bert Chope** is president of a very interesting company in Columbus, Ohio, called Industrial Nucleonics, which manufactures process control systems. . . . **Scheffer Lang** reported that he has recently left teaching at M.I.T. to go with the New York Central Railroad in New York. Scheff is still living in Cambridge but commutes to New York. . . . Plans for the 15th Reunion were among the topics of conversation at our cocktail party, and one of the stronger preferences was to hold it on Cape Cod. . . . Quite a few of our classmates who attended the Alumni Day festivities are connected with the construction business: **Joe Schneider** has his own mechanical engineering firm; **Don Gillespie** has his own architectural firm; **Wally Row** is a manufacturer's representative for heating and air conditioning equipment; **Phillip Lynn** is in the construction end of the General Services Administration in the Boston office. . . . Many thanks to **Wally Row** for his fine job in making arrangements for our class cocktail party. It was certainly the best non-reunion get-together that we have ever had and a must for next year."

Attending the cocktail party were Wally Row, Joe Lynch, Mr. and Mrs. Fletcher Eaton, Mr. and Mrs. Joe Schneider, Wally McKinnon, Earl Eames, Mr. and Mrs. Stan Margolin, Herb Neitlich, Mr. and Mrs. Frank Barnes, Mr. and Mrs. W. E. "Bert" Chope, Joe Vitka, Don Gillespie, George McQueen, C. M. Sutherland, Bill Troy, R. L. Cleveland, Bill and Dianne Lam, and Dick and Betty Lanz. . . . Earl Eames, Joe Lynch, George McQueen and the Chopes also attended the Alumni Day dinner, where they were joined by William R. Jones, Mr. and Mrs. John Seabrook, Philip A. Lynn, and Professor and Mrs. Francis L. Friedman.

I am sorry to have to report that death has taken three of our classmates and the wife of a fourth. Most of you are undoubtedly already aware that Milt Bevington's wife Elizabeth was killed in the plane crash in Paris in early June which took the lives of so many Atlanta residents. Milt and others in Atlanta whose family and friends were killed in the crash have established a memorial fund called the Children's Medical Research Memorial to create a living memorial to the friends and loved ones they lost. Milt has asked that any of his friends who would like to do anything in Betsy's memory direct their contributions to the fund. The address is: Children's Medical Research Memorial Fund, 130 Fulton Federal Building, Atlanta, Ga. . . . Dr. **Roland J. Barriault**, V, (Ph.D.), died June 17 after a brief ill-

ness. Since 1959 he had been chief of the Physical Chemistry Section of the Avco Research Center in Wilmington, Mass. . . . Dr. **Francis L. Friedman**, VIII, (Ph.D.), died on August 4. At his death he was a professor in the Department of Physics at M.I.T. . . . **Howard W. Christopher**, XV, was killed in an automobile accident on August 6. He was president of Christopher Fuel Company in Morgantown, W. Va.—**Frank T. Huls-wit**, Secretary, 14 Nadine Road, Saxonville, Mass.

'50

John McKenna of 246 Davis Road, Bedford, has been named manager of Boston Gas Company's Customer Service Division. John has been with Boston Gas since 1950 and has been assistant manager of the Customer Service Division since 1959. John is a member of the Bedford Planning Board. . . . **Bob Clement**, formerly an assistant professor of organic chemistry at the University of Chicago, has joined the staff of the DuPont Company's Central Research Department. . . . **Charles Magarian** of 180 Kenmore Drive, Longmeadow, has been promoted to manager of research for the Plastics Division's Seattle location. As resident manager, he will be responsible for the operation of the Seattle Laboratory as part of the Plastics Division research department. Charles joined Monsanto in 1950; he has served Monsanto in various production, product development, and theoretical aspects of thermosetting resins. After serving as group leader of phenolic resins at Springfield, his most recent assignment was on the exploratory, fundamental and product development phase of new thermosetting polymers. Charles is married to the former Mary-Elizabeth Hartford and is the father of three children. The family will relocate in Seattle in the near future.

David Gushee, head of the European News Bureau of the American Chemical Society's applied journals, has been appointed managing editor of 'Industrial and Engineering Chemistry,' an ACS monthly, it is announced by Dr. Richard L. Kenyon, Editorial Director. David, who has been at the News Bureau's Frankfurt am Main, Germany, office since its establishment last year, will assume his new duties at the ACS national headquarters in Washington, D. C. . . . **Jim Eiser** has been named assistant to the vice-president-engineering by West Penn Power Company. Located at the utility's general office at Cabin Hill, Greensburg, he had been serving as assistant manager of the Research and Development Department. He is a member of the Edison Electric Institute Generating Station Computer Task Force, East Central Nuclear Group Progress Committee, and a director and treasurer of the Westmoreland County Section, American Society of Mechanical Engineers. . . . Here is some news from **John Schmertmann**; John, his wife and two sons, 2 and 3 years, are leaving the University of Florida for 14 months in Oslo, Norway. John

was awarded a National Science Foundation post-doctoral fellowship (Ph.D., Northwestern, June, 1962) for research, at the Norwegian Geotechnical Institute there. He has been granted a leave of absence from the University for this purpose. . . . **Mel Gardner** has been elected to the board of directors of the Arwood Corporation, New York, it was announced by Rawson Wood, board chairman of the investment casting producer. Mr. Gardner is an associate in the new business department of Bear, Stearns and Company, New York investment banking firm, engaged in all phases of public private financing, acquisitions and mergers. Mel resides in Larchmont, N. Y., with his wife and three children.

Paul West's first two years out of college he worked as foreman in a textile dyeing and finishing plant (H. Warshaw & Sons, Inc., Milton, Pa.) and as a chemical engineer for Colgate-Palmolive, Inc., Jersey City, N.J. From July, 1952, to April, 1954, he was a lieutenant in the Quartermaster Corps, U. S. Army. He served as commanding officer of a mobile petroleum products testing laboratory attached to the Eighth Army, Korea. Since May, 1954, he has worked for the firm of Langner, Parry, Card and Langner, New York, specialists in foreign patent and trademark law. Going to New York University law school at night, Paul was graduated June, 1958 and is now a registered U. S. patent attorney. . . . **Ronald Brightsen**, President of Nuclear Science & Engineering Corporation of Pittsburgh, was elected a director of the Foreign Policy Association. Founded more than 30 years ago, the Foreign Policy Association numbers approximately 800 members interested in promoting public understanding of American foreign policy in the Pittsburgh area. The association's program includes lecture series, study groups and provides guest speakers from other countries for groups interested in promoting a better understanding of our foreign policy. Ronald is a founder and president of Nuclear Science & Engineering Corporation of Pittsburgh, a director of Hazleton-Nuclear Science Corporation of Palo Alto, Calif., and has long been active in community and foreign affairs. Ronald is married to the former Martha Vockley of Pittsburgh, and with their children they reside in Bethel Park, Pa.—**Gabriel N. Stilian**, American Management Association, 1515 Broadway, New York 36, N. Y.

'51

Postcards continue to come in with news for the class notes. **Carlos Aguirre** has been elected president of the M.I.T. Club of Peru, Congratulations, Carlos. . . . **Andreas Andersen** is superintendent of one of the largest aluminum smelters in Europe, and reports excellent skiing and salmon fishing in Norway. . . . **James and Phyllis Ballou** had their fifth daughter last December, and Jim has moved his architectural office to Salem, Mass. . . . **Chiranjiv Batra** is section

head of Burmah-Shell Refineries, Ltd., in Bombay, India; he recently returned from an assignment in England. . . . **Robert Benson** is a physicist at the U. S. Army Signal R and D Labs. in New Jersey. . . . **Ralph Binney** is associate plant co-ordinator for Foxboro's plants in Canada, England, the Netherlands, and Japan. . . . **Mel Bowers** is head of the Engineering Department at the Thomas A. Edison Research Laboratories. . . . **Bill Bruce** is supervising an engineering group in the operation of a large environmental facility at Lockheed. . . . **Carl Burtoff** is building bases in the arctic for the Corps of Engineers. . . . **David Carlton** designed a new house for **John McEvoy** in Owls' Nest, Del. . . . **A. B. Chatfield** joined Aerospace Corporation as a member of the technical staff.

Howard Cole is a project engineer with Sanders Associates in New Hampshire. . . . **Dale Cooper** is in Houston consulting on technical applications for computers; his work involves their use for corporate simulation and complex accounting. . . . **Donald DeMuzio** is a department head for Western Electric in Laureldale, Pa., and manages to fit in skiing in the Poconos and Vermont. . . . **Jean Dumas** is an associate professor at the Université Laval in Quebec; he spent the '61 fall term as a Ford Visiting Faculty Fellow at Carnegie Tech. . . . **Albert Erickson** is a senior engineer at G.E. in Lynn. . . . **James Eyer** is an assistant professor of optics at the University of Rochester and a yachtsman "when time permits." . . . **David Findlay** is a sales engineer with Goodyear Tire. . . . **Thomas Friedrich** is a vice-president of French Paper Company in Michigan. . . . **Donald Galinat** is manager of Reichhold Chemicals' plant in Carteret, N.J., and reports that all three sons are on the same Little League team. . . . **Sav Greco** moved to Valhalla, N.Y., and is designing ethylene units at M. W. Kellogg. . . . **Al Gwynne** is a design engineer at Standard Oil of California and is chairman of the local Community Services District. . . . **Joseph Hammond** received his Ph.D. at Georgia Tech and is now an associate professor studying the application of probability theory to measurement systems. . . . **James Hart** is manager of Mark Products, a division of Dynascar, in Illinois.

Charles Haeuser is stressing creative design in his architectural work on houses, schools, banks, and churches. . . . **Hank Helfrich** is vice-president of his family's lumber company and is active in the Rotary Club and church choir. . . . **William Hewitt** is with National Carbon Company and is thoroughly enjoying the Great Northwest and its offerings of camping, skiing, salmon fishing and the World's Fair. . . . **George Hughes** is an associate professor of Electrical Engineering at Purdue University. . . . **Walter Johnson** is a metallurgist at G.E. in Louisville, Ky. . . . **John Kalvinskas** is supervisor of basic studies at Rocketdyne and taught heat transfer and fluid flow at the University of Florida in July. . . . **Jerome Kirk** reports a myriad of recent activities and is a staff analyst for the Ford Motor

Company in Michigan. . . . **Dick Kolk** reports three children and is one up on **Bill Bley**. . . . **Lawrence Lamarre** sold his pre-fab factory, closed his construction company, sold out his tow land tracts and retired! . . . **Jonny Leffler** is treasurer and general manager of the Greiner Company in Lebanon and is combining the building of schools with playing jazz around Central Pennsylvania. . . . **Robert Lindquist** is a sales engineer with Atlantic Bearing Corporation in Maine and reports excellent skiing. . . . **Raymond Madsen** is engineering manager of Beckman Instruments' Special Product Division in California. . . . **Edwin Martin** is working on his Ph.D. at the University of Kansas while working at the Midwest Research Institute and trying to keep up with his family.

Ray McMartin is president of his company in Omaha, active in numerous organizations and cruised Long Island Sound and Cape Cod this summer. . . . **William Moon** is manager of Equipment Engineering for Magnetics, Inc. in Butler, Pa. . . . **Saul Neidleman** received his Ph.D. in biochemistry from the University of Arizona in 1959 and is now with the Squibb Institute for Medical Research. . . . **Barry Norris** is a project manager at the Mellon Stuart Company in Pittsburgh. . . . **James Parker** is a project review architect with the U.S. Government General Services Administration. . . . **John Prigge** is a research specialist for North American Aviation in Buena Park, Calif. . . . **Dick Reedy** is chief engineer of Hi-Speed Equipment Company in Waltham, Mass., and enjoyed two monthly trips last winter to the Marshall Islands with stopoffs in Honolulu.

Ralph and Betty Romano now have five children; Ralph is secretary and Manager of Entwistle Manufacturing Company in Providence. . . . **John Ryan** has been designing ultra high field magnet systems for Magnion, Inc. in Cambridge. . . . **Larry Schneek** is a senior engineer at Sperry Gyroscope on Long Island. . . . **Gordon Shaw** is a supervising engineer at Femco, Inc. in Irwin, Pa., and is a church elder. . . . **Bronislaw Smulowicz** is a vice-president of Arcon Corporation in Lincoln, Mass. . . . **Thomas Stansfield's** recent activities are "making a living" at Itek Corporation; he would like to hear from local members of the class. . . . **James Stoms** is with Martin-Marietta in Florida, and has been test conductor of Vanguard orbital shots and TITAN ICBM shots. . . . **Antoni Tabak** is a metallurgical engineer at General Electric in Lynn. . . . **George Thompson** visited Germany and Turkey to inspect Air Force installations. . . . **Jack Washburn** is secretary of the Marrow Machine Company in Connecticut. . . . **Tracy Wichmann** is managing a study of Hybrid Computer Organization Techniques for the Air Force as an engineering specialist with Tasker Instruments Corporation of California. . . . **Robert and Sylvia Woolworth** announce the birth of their third child; Bob is working on the design and construction of two earth dams in New Jersey. . . .

Victor Yancey is with Boeing in Seattle working on internal structural temperature prediction for the Dyna-Soar Space Glider.

David Bossen has been promoted from the position of sales manager to be the director of marketing for Industrial Nucleonics in Columbus, Ohio. David, who joined the company right after our graduation, will be responsible for the introduction of the company's Accuray Moisture System. . . . At the September meeting of the American Meteorological Society **Clayton Jensen** presented the paper "The Forecasting of Clouds and Airframe Icing." . . . **John Rabbott** has earned his master's degree in aeronautical engineering from R.P.I. as part of the graduate study program Sikorsky provides for its engineers. **Frederick E. Hertha, Jr.** has been appointed treasurer of Columbia Cellulose Company, Ltd. and Celgar, Ltd. in Canada. . . . **John Eshbach** has been named manager of the Light Production Studies Section of the G.E. Research Laboratory. In this new position he will direct fundamental studies into the sources of light in various energy-conversion phenomena. . . . **Cedric O'Donnell** is now assistant R & D division director for North American's Autonetics Division. Previously he was chief engineer of Autonetics' Computers and Data Systems Division.—**Richard W. Willard**, Secretary, 17 Sargent Road, Winchester, Mass.; **Forest C. Monkman**, Assistant Secretary, 46 Lincoln Street, Hingham, Mass.

'52

Our 10th Reunion is long over, but since these are the first notes due after June, a little reminiscing may be in order. First, **Sandy Isaacs** and his committee deserve a last round of applause for a very comfortable weekend and especially for the good weather. Second, while we didn't make any money to speak of, we didn't lose any. Third, over 200 classmates managed to get to Hyannis. And finally on behalf of President **Gus Rath**, Vice-president **Doug Haven**, and myself, secretary, thanks for your confidence in us, and we'll try to have a successful five years. Gus tells me that the questionnaires are almost ready to be tabulated, and will be mailed out in a class president's letter this fall. Tentatively, the Annual Cocktail Party will be as usual on the Friday before Alumni Day in June. Watch this space for further announcements. And for the long pull, we will probably have a full-scale 15th Reunion—more on this as it gathers steam.

Howie Fawcett, still at Newport News, tells us he was unable to make the reunion as he was sailing in a Bermuda race. . . . **Hal Lawrence** is with the Jet Propulsion Lab in Pasadena. . . . **Arnie G. Kramer** is back in Massachusetts working for Sylvania and for confusion's sake, **Arnie A. Kramer** is still in Worcester, Mass., with Lark Sales, Furniture. . . . **Nat Sivin**, according to Gus Rath, has left Taiwan and is with the Department

of Physics, University of Singapore, where he is studying Chinese Alchemy(?) . . . News of **Andy Wessel** came from Fred Lehman, '51. Andy is president of Wessel and With, outboard motor distributors for Hohnson, in Oslo. He is also active in his father's firm, and until last year was running a car import firm more or less as a hobby on the side, until his brother took over. Andy is also refurbishing a farm outside Oslo, and is active in the M.I.T. Club there. . . . At the October meeting of the American Meteorological Society, it was a big day for M.I.T. '52 with Arnold H. Glaser, Francis Courtney, Jr., Albert Thomasell, Jr., Isaac Van der Hoven, and Duane Haugen all presenting papers. . . . Dr. **Lloyd A. Currie** has joined the staff of the National Bureau of Standards, U. S. Department of Commerce, where he will study nuclear reactions and direct a program of detection and separation of radio nuclides at low levels of activity in the Radiation Physics Division of NBS. . . . Professor **Edward J. McCluskey, Jr.** has been appointed director of Princeton University's Computer Center, which was established to serve all university departments. . . . **George D. Prestwich** will head a new Systems Marketing Operation for General Electric in Washington, D.C., co-ordinating and supporting the company's systems marketing in the aerospace and defense business, matching military and NASA systems requirements with company resources. . . . **Jere L. Sanborn**, staff engineer in the Scientific Computation Department of IBM, Poughkeepsie, N.Y., Development Laboratory, received a \$1,000 Invention award for 14 disclosures relating primarily to logic design employing cyrogenic circuits which have resulted in four patent applications and six publications. . . . **Don A. Christensen** has been elected to the board of Prodelin, Inc., Kearny, N.J., antenna manufacturers, where his specialty will be long-range operational financing. Don is a founder and vice-president of Greater Washington Industrial Investments, Inc. . . . Professor **Herbert M. Teager** has been appointed a consultant to the President's Science Advisory Committee and a consultant to the Special Assistant for Science and Technology. . . . And Professor **Normal C. Dahl** has been appointed program director in assisting the Indian Government to establish a new Institute of Technology at Kanpur, India, under the auspices of a consortium of American engineering schools.

Captain **Richard C. Wingerson** of Juneau, Alaska, is being reassigned to Wright Patterson AFB, having received his doctor of science degree in nuclear engineering from M.I.T. this year. . . . **Bob Damon** writes from Alton, Ill., that he managed to present a paper on the "History, Characteristics, and Design of Jet Engine Starter Cartridges" at an Aerospace Industries Association Symposium while moving into a new house, and just before the arrival of their fourth child. . . . And congratulations to **J. Burgess Jamieson, Jr.**, who has been promoted to vice-president and Adage in Cambridge, Mass. Burge and Lib are

now living in Wellesley.—**Dana M. Ferguson**, Secretary, 242 Great Road, Acton, Massachusetts.

'53

Hopefully, everyone has been keeping up to date on details for the 10th Reunion and planning to join the merry mob next June. The committee is still doing its homework, and, judging by the enthusiasm, the weekend will prove to be the year's best bargain. . . . We are still looking for more committee members, so please get in touch with **Paul Shepherd** or myself if interested. (Paul's address is: 16 Scout Hill Lane, Reading, Mass.) . . . We have a mammoth back-log of letters, news clippings, and questionnaires; I won't have time to include them all this month, so stay tuned during the months ahead. (Your name will appear in print!) . . . **Bill Shapiro** was promoted to associate professor of civil engineering at the Cooper Union in New York City; at the same time he is director of the Computation Center at Cooper Union, and lives in Maplewood, N.J., with his wife Joanne. . . . **Richard Simmons** recently 'retired' from Latrobe Steel Company and joined Republic Steel Corporation as production and technical co-ordinator of vacuum melted steel products for their Central Alloy Steel District. . . . Brother **Mark Schupack** was honored as the commencement speaker at the Technical High School in Springfield, Mass. (he graduated pro merito from this school a 'few' years back). He and Helaine are still living in Providence, where he is an associate professor of economics at Brown. . . . **Alfred Wolf, Jr.**, was one of the Sikorsky Aircraft engineers who was awarded a master's degree under United Aircraft Corporation's graduate study program.

After three years with Electronic Associates, Inc., **Bill Peet** has been appointed manager of the newly formed research, development, and special product sales unit; this unit is responsible for all new products that do not fit into the organized sales structure, such as special purpose analog and digital computers, range instrumentation systems, and special plotting and display equipment. In addition, the unit will co-ordinate the work of the company's analysis group at the Princeton computation center. . . . **Alfred Brenner** was promoted to the Harvard University faculty this summer, and is now an assistant professor of physics. Since 1959, he has served as an instructor at Harvard, teaching both introductory and advanced physics courses; prior to that assignment, Alfred worked at CERN in Switzerland on a Ford Foundation Fellowship. . . . **Joseph Casanova, Jr.** was awarded a Public Health Service research grant for a study of physical organic chemistry of certain classes of compounds which are of current interest in chemotherapy of cancer. After receiving his S.B. at Tech, Joe continued his graduate study at Carnegie, where he received his doctorate, and later Harvard; in 1961 he joined the faculty at

Los Angeles State College, where he is an assistant professor of chemistry. . . .

Reuben Pomerantz, G. resigned his commission in the U. S. Army (after 16 years), and accepted an appointment as special assistant to the Assistant Secretary of Commerce for Science and Technology. His last post in the service was that of director, Quartermaster Radiation Laboratory, Quartermaster Research and Engineering Command, Natick, Mass.; prior to that he was scientific director, Quartermaster Research and Engineering Center Laboratories. . . . As luck would have it, and not wanting Reuben to be lonely, yours truly also has joined the staff of the Assistant Secretary of Commerce for Science and Technology, and—from what I can make out—will be directing the long-range transportation research program. Sooooo, off I go again; please note the new mailing address. Have a ball; if in Washington, please call me.—**Martin Wohl**, Secretary, 3724 Cumberland Street, N. W., Washington, D. C.

'54

Summer is over, the kitchen is painted, classes have started, and once again it is time to start collecting our monthly bags of chit-chat. Mail was moderate during the hot months, but **Dean Jacoby** managed to send two notes with assorted items of interest. Dean informs us that **Scott Mudgett**, who is a captain in the Army, is currently enjoying 13 months in Korea. **Steve Poulos** is at Harvard working hard on his doctorate in Soil Mechanics. **Tom Bastis** is living in Oakland, Calif. He is now assistant to the director for development engineering in the Market Development Department of Kaiser Aluminum. **Ray Rivero** is now plant manager of the main plant of M. K. M. Knitting Mills, Inc., in Manchester, N. H. **Mike Boylan** is doing market research for Conoco in Houston, Texas. Dean reports that Mike has recently returned from a month spent in Europe in connection with "a new enterprise he's contemplating." Nobody but Mike, apparently, knows just what he's contemplating. . . . **Bob Anslow** notes in a recent letter that he has now been with Raytheon for six years, an amazing record. The Anslows' second child, Elizabeth, was born last March. . . . **Charlie Burnham** and **Bob Mackintosh** represented our class at Alumni Day in June. Charlie is spending a year at the Geophysical Laboratory in Washington, D. C., doing research on crystal-structure determination as a fellow of the Carnegie Institution of Washington. . . . **Stewart Smith** has been appointed the first Air Force Office of Scientific Research Professor of Geophysics at the California Institute of Technology. The professorship was recently established through an Air Force grant. . . . **Bill Zoino** and his wife, Ann, are spending a few months in Ashville, N. C., where Bill is building a dam. . . . **Allan Murphy** read a paper at an American Meteorological Society conference in September and **Charlie Leonard** spoke

at a meeting of the Worcester Section, American Institute of Electrical Engineers last April. . . . **Bob Beckett** has been reported to be working for IBM in White Plains, N.Y. . . . **Joe Goncz**, now a captain in the Army, is attending school at Monterey, Calif. . . . **Dick Sherwood** is working for the Aluminum Company of America in Pittsburgh. . . . **Dale Rice** is connected with the Corning Glass Works, Corning, N. Y. . . . And **Dave Sternlight** recently returned from England sporting the title "Doctor" in front of his name. Further explanation was not available.

As our final note for this month, we are very unhappy to have to report that **Howard C. Tabb** drowned at Chatham, Mass., last August. Howard was a captain in the Air Force and was on leave from Lincoln Air Force Base at the time of the accident. He is survived by his wife and three small children.—**Edwin G. Eigel, Jr.**, Secretary, 4945a Sutherland Avenue, St. Louis 9, Mo.

'55

A great flood of replies to our plea for news came just after the notes went to press in the spring; the response was so great that you must not assume that we've lost yours if you don't see your name in print for the first issue or two this fall! And still they are coming; so don't hesitate to send yours if you have procrastinated. . . . **Steve Loring** is engaged to Valerie Stoddard of Worcester, a social worker at the Douglas A. Thom Clinic for Children in Boston, an alumna of Sweet Briar and the Simmons School of Social Work. Steve is with the Economic Machinery Company in Worcester, having parted company with the Navy. . . . **Bill Deibel** and Karel are now in Lakewood, Ohio, where Bill is staff assistant to the manager of the truck and cab division of the production department of White Motor Company. En route from California, right on the way, they spent a month in Europe, concentrating on Karel's home in Edinburgh, Scotland, where Bill met Karel while he was in the Navy. Bill reports that **John Erickson**, whom he saw in Dearborn, Mich., in March, is with Ford there. Also that **Ron Lieber** is still with Monsanto in St. Louis. Ron also reported on himself however! He and Phyllis are living in Webster Groves, and Ron is former president and present treasurer of the St. Louis Young Republicans Club. . . . Back to travelers starting from California for a moment, **Allan** and **Lina Boardman** had a 10-week jaunt to Europe in the spring and claim to have enough home movieish home movies to keep anyone entertained (?). Allan is now back at Aerospace Corporation, living in Canoga Park. . . . Big news from **Barry Lucas** is the arrival of Dana Leigh last February. He and Barbara are living in Windsor, Conn., though Barry's work with the SNAP 50 Project of Pratt and Whitney is in Middletown. **Lloyd** and **Margie Gilson** have a new daughter, too, making Margie's efforts to get her M.S. in education doubly diffi-

cult! **Lloyd** had a plant start-up in Argentina, but got home before the political upheavals earlier this year. Just as well; most start-ups are exciting enough.

Paul Nucleo writes of the birth of Pamela Ann in March. Having received his S.M. from Tech in 1959 in Naval Architecture and Marine Engineering on a scholarship from the Society of Naval Architects and Marine Engineers, Paul is now with Maryland Shipbuilding and Drydock Company of Baltimore, where he and Rosemary are living. . . . Among bachelor friends **Pete Seagle** has gone to Newburgh, N.Y., for Dravo Corporation to work on the new bridge across the Hudson there. Poor ferry. . . . **John Rozendaal** writes from Great Neck, N.Y.; he is assistant to the executive vice-president of Intercontinental Electronics Corporation. . . . **Harold Austin** is with Sonics, still living in Swampscott and active in the teaching activities of the Red Cross and Civil Defense organizations there. . . . Enough of a good thing this month; though this is just a dent in the stack, it will doubtless consume our share of space. So tune in again!—Co-Secretaries: **Mrs. J. H. Venarde**, 2401 Brae Road, Arden, Wilmington 3, Del.; **L. Dennis Shapiro**, 24 Concord Avenue, Cambridge, Mass.

'56

At the Alumni Officers Conference in September, over 300 gathered at Tech to discuss results of the past and to plan future alumni activities. Representatives of the classes, regional clubs, Educational Council, and Alumni Fund held seminar discussions on their respective activities. Class members in attendance were Walt Frey, Bill Grinker, Bob Malster, George Simon, and your secretary. Highlights were the postgraduate charge by Dr. Bush, the Second Century projects that are underway, the demonstrations of scientific achievements and new curriculum, and lobster, etc., in a grand feast at Walker Memorial.

Donald and **Beverly Bavly** were visiting in Boston in September. Don is a senior analyst at Computer Usage Company in Los Angeles. . . . **Warren** and **Renata Briggs** announce the arrival of a son, **Rolf Hofman**, on July 13. Somewhat ahead of schedule, Rolf's arrival in Boston caught Warren at his summer stand with Rand Corporation on the West Coast. . . . **John Gill** wed Sheila Mary Marshall of Portland, Maine, in the summer. John received his MBA from Harvard in 1961. . . . **Irwin Gross** and **Ann Frances Devine** of Belmont will wed in December. . . . **Fred Langmack**, after working with Dow Chemical, received his master's in English from Iowa State in 1960. He is now an instructor in language and literature at Rensselaer Polytech. . . . Lieutenant **Walter Lawson** is at the Army R & D Laboratories, Fort Belvoir, Va. Walt received his Sc.D. from Tech in 1961. He and Joan have three children: Walt, Jr., Cynthia, and Kendra. . . . **Dick Miller** received his doctorate in biology from

Tech in 1961 and then entered the Army. He served at Fort McClellan, Ala., and the Chemical Biological Laboratory at Fort Detrich, Md. Now he is teaching at the University of Sheffield, England. . . . **Robert Nelson** wed Judith Evelyn Levy of Portland, Maine, last April. Bob is with RCA in Harrison, N.J. . . . **George Simon** was formerly with Boeing but is now with a family concern supplying plumbing, heating, electrical, and industrial items in Fall River, Mass., and surrounding area. . . . **Wing Tsang** received his Ph.D. in physical chemistry from Cornell in 1961. He studied under a NSF fellowship in 1959-60 and under a post-doctoral grant in 1961-62. In May he joined the staff of the National Bureau of Standards in Washington. He will study kinetics of fast reactions at high temperatures in a shock tube.—**Bruce B. Bredehoff**, Secretary, 1094 Center Street, Newton Center 59, Mass.

'57

With this issue of Technology Review I am making my debut as writer of the class notes. I have recently moved from New York, where I was gainfully employed the last few years as an economist in the oil business, to Cambridge to enter the Harvard Law School. When you are in the Boston area I would welcome a call or a short visit. In any event I look forward to hearing from all of you by mail. . . . From the many comments I have received, the class's 5th Reunion at the Mayflower Hotel in Plymouth, Mass., was a big success. A business trip forced me to cancel my plans to attend at the last minute, but I have picked up a few notes on the gathering from **Alan May** and **Gary Dischel**. . . . A total of 62 classmates turned up for the weekend; 43 brought their wives. Dinner on Saturday night was highlighted by the presentation of awards by **Marty Gerson**, the master of ceremonies, to the classmate who came the greatest distance (**Fitz Rawls**—from Florida) and to the classmate who had gained the most weight (**Paul Nicholson**—from beer?). . . . **Brian O'Kane** broke his finger playing softball. Among the tennis stars in action were **Bill Salmon**, **Stan Kroder**, **Mal Jones**, and **Don Aucamp**. . . . **Bob Rosin**, outfitted in a Johann Sebastian Bach sweatshirt, led an 18-hour marathon volleyball game played in the water. . . . Golfing honors went to **Gail** and **Bill Alcorn**. . . . Strong winds nearly blew the clambake on Sunday into the sea. . . . At a short business session **Gary Dischel** was elected President; **Mal Jones** Vice-President; **Alan May**, Treasurer; and **I**, Secretary.

In July I had lunch in New York with **Jack Safirstein**. Jack is doing media analysis work with Lennen and Newell, an advertising agency. From Jack I learned that **Bob Gal** is an operations manager with Gimbels and is now working at the company's new store in Roosevelt Field, Long Island. **Marty Goldstein**, Jack reported, is now an instructor in mathe-

matics and doctoral candidate at Wisconsin. . . . **Herb Schwartz** writes from Philadelphia: "I've completed one year of law school at Penn and am entering my second year next week. I was recently elected to the Law Review which has really kept me hopping. In the past five years I've managed to get married, put in two years in the Signal Corps as a lieutenant at Fort Monmouth, work for Philco (two years full time and last year as a consultant), and pick up most of my requirements for an MBA at the Wharton School at Penn." Herb noted that **Yale Block** is married, has a little boy, and is doing research for Squibb Research in New Jersey, and that **Murray Muraskin** has received his doctorate in physics from Illinois and is now an assistant professor at Minnesota. . . . **Ed Hoyt** and **Sarnia Tillison Hayes** were married in New York in July. Ed will be continuing his studies at the Fletcher School this fall. . . . I have also received word that **Eliot Wolk** wed Nancy Lesser in June. Eliot is with H. Hentz and Company, a New York investment banking firm.

You will be grieved to learn of the tragic death of **Larry Cramer** in an automobile accident in Los Angeles on June 30. Larry, a civil engineering student as an undergraduate, received the S.M. degree from the School of Industrial Management in 1959. Since then he had been working for the Hughes Aircraft Company in operations research and internal consulting. He leaves his wife, Jean, and his one-year-old daughter. . . . Next month I will include some notes on the Alumni Officers' Conference which I attended last weekend. I do want to bring to your attention now, however, the address given by Vannevar Bush at the close of the conference. This address is published in full in this issue of *The Review*.—**Frederick L. Morefield**, Secretary, 17 Everett Street, Cambridge 38, Mass.

'58

As our fifth year as alums begins, reunion activity moves into high gear. **Jim Benenson** is heading up the publicity committee. Jim, living the good bachelor life in New York City, works for the Chemical Fund as an analyst-wheeler-dealer. You'll be hearing a lot more from him during the next few months. **Steve Friedman** is putting together a questionnaire to find out how bald we are and how many wives we have. The data will be collated in printed form for distribution at reunion. Steve, also a bachelor, is a systems analyst at the Chase Manhattan Bank. . . . **Dan Holland** has joined the Institute with the Industrial Liaison Office after Harvard Business School. Dan will head the Program Committee for reunion and welcomes any suggestions anyone might have. . . . **Glenn Strehle** has left the Athletic Department at Tech to seek his fortune in the financial world. . . . Send your cards in!

I talked to **Dave Bentley** who reports

that **Paul Rothschild** recently was married and now lives in Toledo where he is affiliated with Owens-Corning. Dave himself spent some time in the Army, was married and is currently with Union Carbide Plastics Company in the research department. He and his wife have a 16-months-old daughter, Karen Denise. . . . I have moved several times since the last writing and am now in New Jersey selling a central control system for manufacturing operations for Hancock Telecontrol Corporation. We added a second son to our roster back in January. . . . **Charles M. Clement** is in Sarasota, Fla., with Electro-Mechanical Research, Inc., after living in Nashua, N.H. . . . **Bill Hauke** has been building so many camps in the Burlington, Vt., area that he is called the Camp Construction King. His wife complains, however, that their garage is still unfinished. . . . As prophesized in June, **Richard Rosenthal** married the former Patricia Weill in a wedding at the Plaza in New York City. They are now in Hoendel, N.J.; Dick is at Bell Labs. . . . **Benjamin Sel**, another June groom, married Janet M. Giles in Englewood, N.J., and is now chief engineer for the North Jersey Refining Company. In Iowa, another marriage saw **Robert McIlroy** wed to Joelle Halverson. Bob is a chemical engineer for the Babcock and Wilcox Company.

William J. Moore received an M.S. in chemical engineering at Caltech. . . . **Walter Braun** received an M.A. in physics at Washington University. . . . **Donald Hess** married Carole Minton in Boston in August.—**Cornelius Peterson**, Secretary, 4 Rambling Brook Road, Upper Saddle River, N. J., **Antonia D. Schuman**, Western Associate, 22400 Napa St., Canoga Park, Calif.; **Kenneth J. Auer**, Midwestern Associate, 12955 Harlon Avenue, Lakewood, Ohio; **William G. Daly, Jr.**, Eastern Associate, 125 White Street, Waverley, Mass.

'59

During the summer I received quite a few letters from class members. Some were forwarded to **Bob Muh** who is now in Alaska, and so will not appear in *Class News* until the next issue. . . . **Bob Rosenfeld** writes that he received his Ph.D. from Caltech, last June. He, his wife, and his son, Allan, are now living in Salt Point, N.Y. . . . **Ron Willey**, originally with United Aircraft Corporation, now has his own company. They are engaged in optical engineering, design, and prototype fabrication. Ron has four children. . . . On June 16 **Al Angelbeck** and Carol Christy were married. The wedding party included Lynn Jacobson, Ron Finn, and Chris Schlemmer. Other class members at the wedding were Wayne Worrell, Jerry Glass, Barrie Shabel, and Ron Ummel. **Wayne Worrell** is working on his Ph.D. in metallurgy, and Jerry Glass, Ron Ummel and Ron Finn are serving as officers in the Navy and Air Force respectively. The others are beginning corporate careers—**Barrie Shabel** at G. E., **Al Angelbeck** at Pratt

and Whitney, **Lynn Jacobson** at Lincoln Laboratories, and **Chris Schlemmer** at Atlantic Refining Company. Thanks for the letter, Chris.

Jerry Schooler, M.I.T. Club of New York Class Representative, extends an invitation to all members of the class in the New York area to attend the class luncheons. These are held once a month, on the Wednesday of the first full week. In his letter he included the following information: **Howard Ziff** took the bar exam after attending Columbia Law School. . . . **Henry S. Brinkers** is chief planner and head of research for the City of Boston. . . . **Mark Benz** is employed by G. E. in Schenectady, N.Y. . . . **Howard E. Kaepplein** is industrial sales manager of Silicon Transistor Corporation. I hope that everyone has had an enjoyable summer.—**Al Oppenheim**, Acting Secretary, 1200 Commonwealth Avenue, Allston, Mass.

'60

The start of another series of Review articles finds me with quite a bit of news. I regret to report that one of our classmates, **James J. McGee**, was killed August 3 in an auto accident in Bakersfield, Calif. He had received his degree in civil engineering and was on duty with the Navy with a construction battalion in California at the time of his death. . . . Congratulations to the following classmates who received master's degrees in June from Tech: in chemical engineering, Marc Porter, George Ping-Shan Koo, and Malcolm Fraser; in aeronautics and astronautics, Ken Graham; in electrical engineering, Charles Rook, James Janak, Dick Greenspan, and Ed Patrick; in nuclear engineering, Winston Little, Don Steiner, Gerald Kaiz; and in mechanical engineering, John Howland. . . . **Dave Butterfield** received an M.B.A. from Washington University in St. Louis. . . . Congratulations should be offered also to **Bob Staton** who has been appointed a teaching fellow in anatomy at the Harvard Medical School. Bob received B.S. and M.S. degrees from Tech in '60 and '61. . . . Several classmates have also received fellowships within the past few months. **Michael Modell** was awarded a 1962 National Science Foundation Cooperative Graduate Fellowship to continue his engineering studies at Tech. Classmates **Norton Starr** and **Paul Young** were awarded NSF summer fellowships for graduate teaching assistants in math for the summer of 1962. . . . **Jim Duke** is entering Princeton to work toward a master's in aeronautical engineering. Jim also has a research assistantship in flight mechanics and dynamics to help foot the bill.

The class seems to be doing well on the battlefield also. **Joe Patalive** received his Air Force pilot wings. . . . **Norm Ball** and **Tony Anastation** completed officer orientation programs in June and **Frank Brown** is now a full-fledged Honest John rocket crewman. . . . Marriages to report include **Barry Rein's**, who married Jan Altman in June. Barry

is attending Georgetown University Law Center. . . . **Guy Fujimoto** married Linnette Sang, also in June. Guy is doing graduate work at Tech in electrical engineering. . . . **Steve Shimberg** married Orlene Barks June 24 and **Peter French** married Katherine Ryan in July. . . . I have heard recently from several classmates who are good enough to pass along news of their own activities and of others. **Larry Elman** wrote at the end of August that he is assigned to Sheppard AFB, Wichita Falls, Texas, as a missile instructor. To quote: "I've been counting the days until discharge, which will undoubtedly shock those who remember my ROTC gunghoness." Larry received a master's degree in aeronautics and space engineering from the University of Oklahoma. . . . **Jerry Levine** wrote that he had received a master's degree in chemical engineering from Tech and has since been employed by the 3M Company in St. Paul, doing pilot plant work. Jerry reports he's still single. . . . First Lieutenant **Niels B. Anderson**, Larchmont, N.Y., was awarded the U.S. Air Force pilot wings following his graduation from pilot training at Webb AFB, Texas. Niels holds a master's from Stanford Univ. as well as his M.I.T. degree.

Charles McCallum wrote a nice letter in July. He spent the school year of '60-'61 in Manchester, England, on a Fulbright and since September of 1961 has been attending Vanderbilt Law School. He was married June 9 to the former Linda Bates of Nashville. Charles also wrote that **Al Krigman** has been appointed to the Mechanical Engineering teaching staff at Clarkson College of Technology in Potsdam, N.Y. Linda Greiner **Sprague** was good enough to send me several bits and pieces of news. She reports that the newest addition to the family is doing fine. **Chris** is still in Course XV work and Linda is doing freelance technical editing. . . . **Tom Farquhar** and **Dick McDowell** are in Course XV grad school this fall. . . . **Ken Freeman** is working on his Ph.D. at Yale. . . . **Mike Padlipsky** has returned to Los Angeles after teaching at B.U. for two years. . . . **Chris Witze** is working for Martin in Baltimore. Linda and Chris extended an invitation to anyone who's passing through Boston to visit them. The Spragues also led the class at Alumni Day last June, which was also attended by Adam Shrier, Pat Spangler, and Tom Stone.

Tom Heinsheimer seems to be much in the news these days. He and two other M.I.T. graduates designed a flight safety system for the flights of the recent astronauts. Tom had a paper on the subject accepted by the International Astronautical Congress which was held in Bulgaria in September. Thanks for the letters—they make the job of filling this column much easier. I hope you are all having a successful year. Any information on your activities would be appreciated. One final word—I am currently involved in maintaining current addresses for all members of our class. If you have not communicated with the Alumni Office as to your present whereabouts please do so, so that I can update my

files from their records.—**John B. Stevenson**, Secretary, 106 Ellery Street, Cambridge 38, Mass.

'62

I attended the Alumni Officers' Conference, an impressive two days of lectures, luncheons, and tours. Also present was **Jeff Steinfeld**, X, who is at Harvard on an NSF. Now for some more news of our classmates' marriages, migrations, and matriculations. . . . **Rudolph Gawron**, XV, who will continue at M.I.T., was engaged to Jean Kielb of Chicopee in August. . . . **Thomas Gawronski**, X, who is attending Washington State University, was married to Jane Donnelly of Boston. . . . **Ken Gentle**, VIII, is continuing at M.I.T. with an NSF fellowship. . . . **Morris Goldberg**, X, is working at Phillip Corporation in New Jersey, and was married in June. . . . **Howie Graves**, XVI, is working for Douglas Aircraft in Santa Monica, Calif. . . . **Marshall Greenspan**, VI-A, is working in Connecticut for United Aircraft and was married in August. . . . **Jerry Manning**, II, is staying at M.I.T. and was married in August to Mary Pat Drake. . . . **Charles Martin**, VI-A, is working at Raytheon and will be married in December. **Gary Matchett**, VIII, is working for Minneapolis Honeywell Regulator Company. . . . **Phil Miller**, V, who is remaining at M.I.T., was named Outstanding Senior in Chemistry by American Chemists. . . . **John Moulson**, X, now in the Navy, was married in June. . . . **V. J. Shah**, XV, is attending M.I.T.

Alan Carlson, VI, who is working for Sanborn C. and attending Northeastern, was married to Sandra Beaton of Belmont in September. . . . **Herschel Clopper**, X, is at M.I.T. and is engaged to Phyllis R. Price of Newton. . . . **Ed Linde**, who is at Harvard Business School, was engaged to Joyce Goldfine of Brookline this summer. . . . **D. K. Cohoon**, XVIII, is attending Purdue with a teaching assistantship. . . . **Donald Colosimo**, XVI, who is working at Douglas Aircraft in California, was married in June. . . . **Arnold Stancell**, X, is working at Mobil Chemical Company. . . . **Gerald Cook**, VI, at M.I.T. on an NSF, was married in June to Nancy Gillespie of Greenboro, N.C. . . . **Richard Crowell**, VI, at M.I.T. on an NDEA Fellowship, was also married in June. . . . **R. Bruce Cuthbertson**, II, is attending Harvard Business School. . . . **Bob Barthelemy**, X, who is at M.I.T. on an A.E.C. Fellowship in Nuclear Engineering, was married in June. . . . **Gerald Parker**, VI, who is a teaching assistant at M.I.T., was married in June to Diana Frye, a June graduate of Simmons. . . . **Erich Bender**, II, now working at Grumman Aircraft in Long Island, N.Y., was married in August. . . . **Frank Berlandi**, V, is at the University of Michigan. . . . **Martin Pato**, VII, is on a fellowship at Berkeley. . . . **James Peterson**, VI, is working for Bell Telephone. . . . **Joel Pitlor**, II, who is working for the Linde Company, was married in June to Joan Maltz. . . . Mrs.

Francia Porter, VIII, is working at the Watertown Arsenal. . . . **John Pryke**, II, was married in July to Carol Arlanian. . . . **Judy Brainard**, XIII, is engaged to **Joe Wyatt**, XV, and is working at the Electric Boat Company Division of General Dynamics. . . . **John Dalbora**, VI-A, is at Columbia University with a teaching assistantship.

Selig Saltzman, XIV-B, is at Harvard Law School. . . . **Robert Schildkraut**, VI, is at the M.I.T. Instrumentation Lab. He says that he is not getting married or engaged and that should be pretty newsworthy; judging from this article; he has hit the nail right on the head. . . . **Judy Selvidge**, XXI-B, is technical editor at the Jet Propulsion Lab. . . . **Piero Sembenelli**, I, of Verona, Italy, was married to Paola Fiorio. . . . **Don Divinia**, VI, is working at Collins Radio Company. . . . **Steve Smith**, VIII, is at M.I.T. on an NSF. . . . **John Solomon**, II, who is working for Pratt and Whitney Aircraft Company, was married in March to Judith Cowan of Morristown, N.J., and Pembroke College. . . . **James Stephens**, X, working at DuPont, was engaged to Ellie Richardson in May. . . . **Gary Stuart**, XVIII, is at Harvard Graduate School of Arts and Sciences on an NSF. . . . **Roger Sullivan**, VIII, attended a Columbia University summer institute in space physics. . . . **Leon Sutton**, VIII, is at the University of Paris on a Fulbright Fellowship. . . .

Chuck Sve, I, who is working at Rockedyne, was married in September. . . . **Thomas Ambler**, XV, who is working for U.S. Steel, was engaged to Suzanne Prentke, a master's candidate in music at B.U. . . . **Hans Christian Andersen**, V, is at M.I.T. on an NSF. . . . **Allen Ream**, VI, XV, who is at Northwestern Medical School, was married to Bliss Finlayson of Seattle, Wash. . . . **Kim Reyburn**, X, is at Oklahoma State University. . . . **Roger Arndt**, I, is working at Allegheny Ballistics Laboratory in Rocket Center, W.Va., and was married in June. I was working at ABL this summer as field engineer for Whiting-Turner Contracting Company of Baltimore, Md., but I didn't know that I had a classmate there until I began writing this article. . . . **Abe Aronow**, XXI-B, is at Dartmouth Medical School. . . . **Phil Robinson**, VI-A, is working at the M.I.T. Industrial Liaison Office. **Steve Root**, X, at M.I.T. on an NSF, was married in June to Marcia Arentzen, '63. . . . **Roger Rowe**, VI, is at M.I.T. as a teaching assistant and is president of the M.I.T. chapter on Tau Beta Pi. . . . **Earl Hall, Jr.**, II-B, who is working at Bell Helicopter, was married in October. . . . **Dean Eastman**, VI, at M.I.T. on an NSF, was married in June. . . . **Rodney Edwards**, VI, is working at the M.I.T. Instrumentation Lab. . . . **Jed Engeler**, VII, was married to Joan Riester in August. . . . **Ruth Entine**, XVIII, at M.I.T. as a teaching assistant, was married in June to Gordon Nelson of the Neurology Section of the M.I.T. Electronic Systems Lab. Keep the news coming.—**Jerry Katell**, Secretary, Graduate School of Business, Stanford University, Stanford, Calif.

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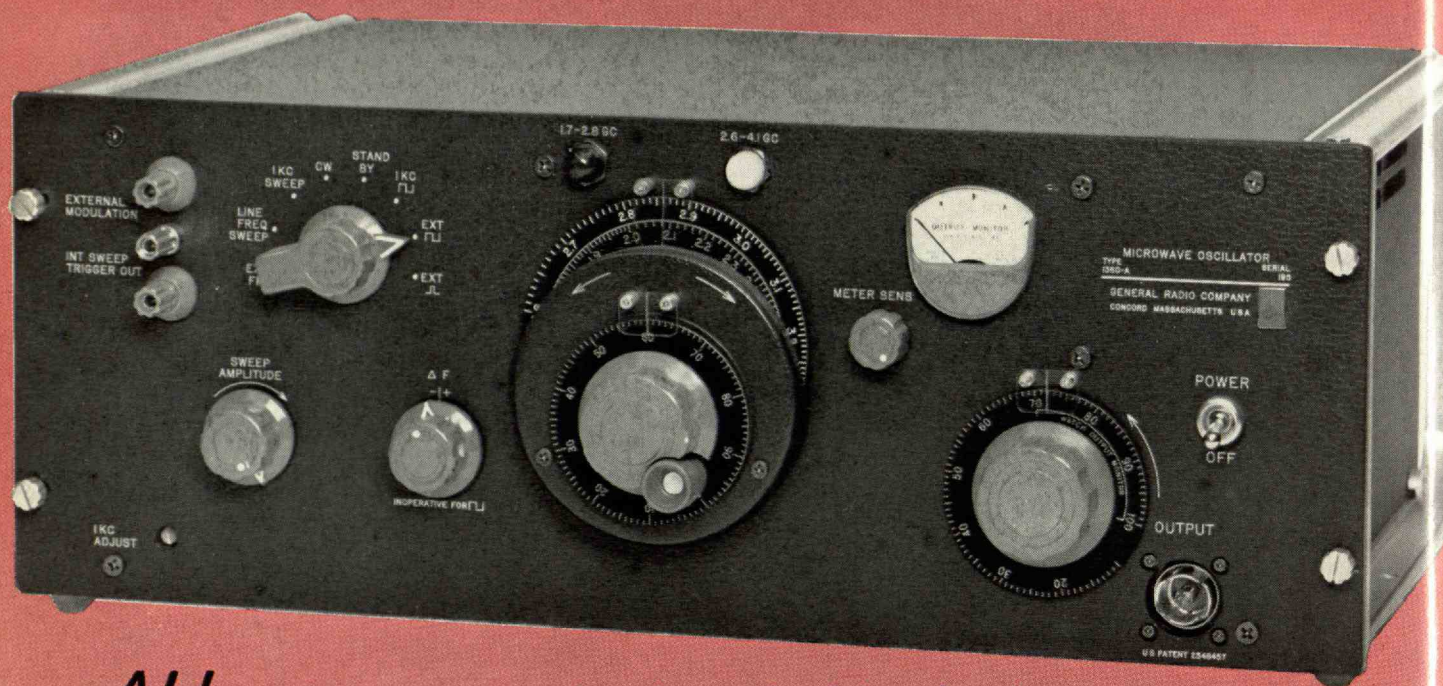
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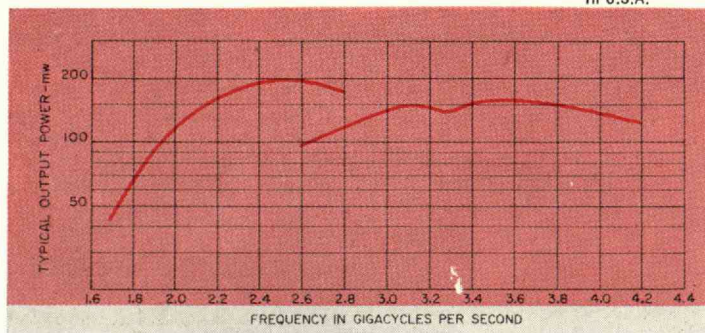


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